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STORY OF EVERYDAY THINGS



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## The Story of Everyday Things







*Reproduced through the courtesy of Harry T. Peters, Esq.*

COUNTRY FAIR, BY JOHN A. WOODSIDE, 1824

Many everyday things are discernible in this fine old American painting of probably the first country fair held in Chester County, Pennsylvania, in 1823. It contains the first known painting of a Conestoga wagon, and there is a primitive steamboat to be seen beneath the branches of the large tree at the right. The Pennsylvania gentlemen scrutinizing the well-fed kine are wearing rough beaver top hats, white satin stocks, long tail broadcloth coats, and white pantaloons fastened under the instep, characteristic of the period. Other everyday things, typical of country life in the Middle Colonies in the eighteen twenties, are the crude agricultural implements, the two-story house, and the opulent barn.

# The Story of Everyday Things

By

Arthur Train, Jr.

.....

WITH ILLUSTRATIONS BY

CHICHI LASLEY

.....

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THE STORY OF EVERYDAY THINGS

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For convenience' sake and to make reference easy, the material within each chapter is divided into sections. An introductory passage is followed by sections on Houses, Furniture, Clothes, Food, Agriculture, Transportation, Industry, and Life in the Community, always in that order.

These headings are necessarily elastic, especially the latter two, which naturally become far more inclusive in the later chapters, and tend more to overlap, as our civilization becomes more complex.

Occasionally a category must be omitted altogether—in the chapter on the Indian, for example, there is no discussion of industry as such. Chapter XI (*The Westward Movement: Cattle and Gold*) cannot conform to the pattern in all respects; nor can the Epilogue (*The Next Hundred Years*).

## The Story of Everyday Things





## INTRODUCTION

AFTER watching some flies, which had been drowned for many months in a bottle of Madeira, come to life in the sun, Benjamin Franklin wrote:

"I wish it were possible, from this instance, to invent a method of embalming drowned persons in such a manner that they may be recalled to life at any period however distant; for having a very ardent desire to see and observe the state of America a hundred years hence, I should prefer to any ordinary death the being immersed in a cask of Madeira wine, with a few friends, till that time, to be recalled to life by the solar warmth of my dear country."

Suppose the old philosopher had been able to realize his wish, and had suddenly unsealed his eyes in the middle of the purple and plush period of Victorian days, what would first have attracted his attention? Events? Politics? Trends? Ordinarily these cannot be seen, heard, touched, smelled, or tasted. No, the first things to arouse his curiosity, I'll warrant, would have been the houses people lived in, the furniture they used, the food they ate, the clothes they wore, the vehicles that carried them hither and yon, the things they made, and the means by which they communicated with each other.

Perhaps Franklin would not have been so surprised at the transformation, after all. He had only to think back over a crowded life which itself spanned more than fourscore years, to realize that since his boyhood the things man used in his everyday life had undergone as many and as surprising changes. When he was born, a period of rugged simplicity was drawing to a close; at the prime of his life he was surrounded by the finest that craftsmanship could produce; when he died, the germs of aesthetic decay were already in existence, and the time was not far off when the machine would begin to undermine the pride of the craftsman in his work, and destroy for a while, at least, man's love of the delicate and the beautiful.

But let us leave the sage wistfully gazing upon his sun-warmed flies. For although his mind belonged to the ages, you cannot whisk the physical Franklin from one historical period to the other. His brown coat, his linen neckcloth, his close-fitting breeches with silver buckles at the knees are as inseparable from the age of Hepplewhite and Sheraton as the claw-hammer coat and the muttonchop whisker are from the period of Eastlake and William Morris. For while clothes—and furniture, and houses, and other manifestations of personality—may not always make the man, they make him vivid to us, easy to picture and remember, within the framework of a period.

## The Story of Everyday Things

In the course of his evolution, man has created many extensions of his own physical self. His body is protected against the inclemencies of the weather by skin, but he has found it convenient to add an artificial covering. He can scoop up water to drink in the hollow of his hand, but it is more practicable to use a cup. He can sit or lie on the ground, but it is more comfortable to have some kind of support.

Skin and clothes not sufficing to protect him against wind, rain, and sun, and extremes of heat and cold, he has added another outer covering or shell—his shelter, his house.

For countless epochs man had been roaming the forest in search of game, and, in tropical climes, waiting for fruits to drop off trees before he learned that it was easier to grow things for himself near his home. Thus was agriculture born. And although the first crude implements originated in the need for self-defense, eventually he discovered that they could be adapted to the production of things he could use in his everyday life.

To reach the homes of his friends, the water's edge, or the neighboring village, it was possible to walk. But as time went on he learned to ride, to use a vehicle, or some kind of craft. Sometimes he might be unable to make the trip, and had to rely on his ingenuity to devise a means of sending a message.

When there were many houses together, he felt the need of setting apart a place or a building where he and his friends could meet to worship, or talk, or learn something new. These community centers were designed to meet the need of his social and religious longings, and also to give expression to thoughts about things that went beyond his own self, art and science, medicine, learning, and the advancement of the community. Not the least important utilization of these centers was for his relaxations, sports and amusements.

The story of everyday things, then, is really the story of houses, furniture, food, clothes, transportation and communication. It is also, to a certain extent, the story of agriculture, handicraft, and industry, community life and the life of the intellect, and amusements.

In the territory now covered by the United States, the story begins with the Indians, whose way of living was utterly different from anything that we are accustomed to associate with civilization. To the white men who came to these shores almost simultaneously from four European lands, these red-skins in beads and feathers seemed little short of fantastic. This did not prevent the Europeans, however, from accepting what the Indians had to offer from their store of everyday things, such as life-giving corn, wealth-bringing tobacco, warm skins and furs. On further acquaintance the white man had an opportunity to become familiar with the Indian's tepee and lodge, his dugout and canoe, not to mention, as the wheel of fortune turned, a sometimes uncomfortably close acquaintance with his arrow, his tomahawk, and his scalping knife.

In their turn, the white settlers brought their own everyday things. The Spaniard introduced the horse, palm trees, cantaloupes, picturesque styles of architecture. The French brought the luxury of the court of Versailles in costume and furniture, a delicious cuisine; folk songs, gray slate roofs, potages and portages. Small though the Dutch settlements were, they boasted windmills, canals, stoops, notched roofs, built-in beds, tiled fireplaces. And the English contributed among a host of other things, the settle, the warming pan, the meetinghouse, the Wren spire, fox hunting, and, in the later stages, the architecture of the Georges and the craftsmanship of the famous cabinetmakers.

As America became more populated and the civilization of the Old World spread over the land, all these things of everyday use were no longer confined to small sections of the country but became an integral part of the national way of life, to such an extent that when three great peoples withdrew their flags and their governors from our shores, they left behind them permanent reminders of the grandeur of the Spanish, French, and Dutch empires.

But long ere this, the English colonists had begun to increase in population and to expand their territory. During the seventeenth century, roughly speaking, they went wherever the ocean-going ships in which they had come could carry them—all along the coast, and up the larger rivers to the first falls. In the following century they moved up beyond the falls and into the great mountain ranges.

Thus began the westward movement. Soon it accelerates. Pioneers make their way through the forest, cross the prairies, and struggle over the western plains until they reach the shores of the Pacific.

Now the westward movement has reached its limit. The country can no longer expand. But another fundamental change is taking place: the coming of the machine. Things which had always been made by hand, in the home, are beginning to be made by machinery in factories. Instead of reflecting as in the old days, the life and the character of the man who made them, they are growing uniform in all parts of the country.

The machine continues to increase in size and importance. Man is obliged to dig into the ground for food to put into its maw. The sky is black with its outpourings. It calls man out of the home. It calls woman out of the home. Having to a large extent destroyed the beauty of everyday things in the home, it apparently threatens to destroy the home itself. Man has become its victim.

Then comes another change. The machine evolves still farther. It enables man to rise up into the sky on wings, to send messages and even pictures through the ether. There are hints that it may be able to do all of man's work and provide him with more leisure. There are signs of a return to a love of the beautiful. Man is on the way to conquering the machine.

## The Story of Everyday Things

As revealed by everyday things, the seventeenth century was a period of simplicity, when the settlers were carving a rude existence out of the wilderness. The eighteenth century was a period of comfort, and with it came the flowering of artistic and aristocratic ideals. After the French Revolution and the Napoleonic reaction, these ideals went by the board, and a bourgeois era set in. The reign of good taste was at an end. The bourgeois became rich and indulged his fancy in grotesque reproductions. In the twentieth century, people stopped imitating and let the things made by the machine be as simple and as functional as possible.

Thus four centuries of American history, so far as the material background is concerned, divide themselves roughly into the period of simplicity; the period of good taste; the period of bad taste; and the dawn of a new aestheticism.

There is a fascination in tracing the connection of everyday things with the life of the time in which they were used, and the life of preceding eras, not to mention their survival in our own day.

That shell carved on the Chippendale chair in which you are sitting draws its inspiration from the shell-encrusted grottoes of the gardens of Versailles. The back of grandmother's "Windsor" is nothing more than a bent yew bow from Sherwood Forest, such as was used by Robin Hood's archers. The "stogie" you just threw away was immortalized by the hard-bitten drivers of Conestoga wagons.

You play golf in "knickerbockers"; enter your house by the "stoop"; stroll—in New York—through the "bowery." In so doing, you honor the memory of Peter Stuyvesant and his little band of settlers.

From the French we get both "Yankee" and "Dixie." The former is a corruption of "Anglais" as pronounced by the Indians; the latter is from the French word *dix* (ten) on the back of ten-dollar bills in Louisiana shortly after it became a part of the United States. The Suwannee River, according to some accounts, was named from the Spanish Mission of San Juan de Huacara on its banks.

The angular, uncompromising, Puritan settle expresses the angular, uncompromising temperament of the Puritan; the pillared portico, the elaborateness and decorum of Southern social life. The carpet-bag has become a symbol of political exploitation. People "bury the hatchet," and "smoke the pipe of peace." All over the land there are reminders of our colorful inheritance.

In the everyday things of each era are wrapped the flavor and significance of the past. No matter how modern we are, few among us can resist their enchantment because deep in our hearts we feel that they are an integral part of our ancestry.

## PROLOGUE: The Day of the Red Man

### INTRODUCTORY

IT CAME as something of a surprise to the red man, living on this continent four centuries ago, to be told that he was an Indian. He had been in this country as far back as he could remember. He had evolved a way of life peculiarly his own, and he liked it. Even measured by standards other than his own, it was sometimes of a high order. And so, for many years, at many places on this continent, the puzzled red man would exclaim: "You, white man, why do you call me Indian?"

Well, that was what Columbus labeled them, when his ships first grated on these sands. Historians say Columbus was wrong. Anthropologists are not so sure. The former look at the script. The latter, the skull.

One of the things an anthropologist would study first, would be the shape of the front cutting teeth, or incisors. In the Indian, as in the Asiatic, they are shovel-shaped. Then there is the straight hair and the dark, reddish skin. Scientists are cautious, but on the strength of such evidence they admit the possibility that the "Indian" may have originated in Central Asia, and migrated to the American continent by way of Bering Strait, eventually spreading all over the hemisphere, down to the southernmost tip of South America.

How long ago that was no one knows. The fact that the Indian hadn't learned some things his Asiatic brothers must have known aeons ago, such as the principle of the wheel and the use of iron, plus the fact that archaeologists have found traces of tribes so primitive they were ignorant of the bow, had no pottery, and little polished stone, imply that he must have come to this land at least ten thousand years ago. He spent, therefore, a hundred centuries building up a culture, only to see it wiped out in three.

What a moment in the human story when the Indian and the white man first gazed upon each other! When the first explorer descended from his pot-bellied galleon, he completed a journey which had taken him a far greater distance and countless thousands of years more than it had taken the Indian. For the two had started from the same wind-swept plateau in the heart of Asia, the birthplace of the human race. Like brothers setting out to seek their fortunes, one had gone East, the other West. The one who went West, after desert wanderings, settled down and built cities, founded religions, established

empires, and began to explore the far corners of his world. The crowning achievement came when he crossed the Atlantic and found his long-lost brother.

The fact that the reunion was not exactly a cordial one, rather spoils the fable. But such is history. At any rate, what happened next was remarkable—two of the main divisions of mankind, the occidental and the oriental, living side by side in this land, sometimes in amity, sometimes in hatred, but always in contact.

This chapter tells the story of the Asiatic brother. How the Indians of pre-historic days lived can be deduced from their excavations for dwellings; their walls and forts; their tombs and burial mounds; their mines and quarries; their shell heaps along the coast; the cliff dwellings in the great canyons of the Southwest; and the innumerable stone objects that have been painstakingly unearthed.

But the ancient past is the domain of the archaeologist. What of the Indians of the historic yesterday, three and four centuries ago?

What were they like in the days of Columbus, Coronado, Coligny, Bien-ville, John Smith and Myles Standish? It was in those days, so little was the Indian known in Europe, that some tribes were described by both Raleigh and the missionary Lafitau as having their heads snugly buried beneath their shoulders, which puts us in mind of Shakespeare's well known lines in *Othello*:

"It was my heart to speak—such was the process;  
And of the Cannibals that each other eat,  
The Anthropophagi, and men whose heads  
Do grow beneath their shoulders."

## HOUSES

"He who knoweth one such house knoweth them all," sums up John Smith's impression of Indian dwellings. And Smith was a fairly accurate observer of everyday things in the lives of the Indians in Virginia in the early years of the seventeenth century. Of course, he knew only a few tribes, but if he had said this of the way in which Indians *build* their houses, his remark would have been more nearly true.

For there is one thing to remember which gives the key to the Indian way of living all over the country. The Indian was a part of nature, not set off from it. He lived as naturally as his brother, the Beaver; his cousin, the Bear. In fact, he made less effort than the beaver. He took it for granted that nature would supply his material needs without mental endeavor on his part.

So it is not surprising that Indian dwellings all over the continent had one thing in common: they were made from the unworked materials nearest to hand, such as branches, bark, rushes, matting, the skins of animals, earth, and

even snow. (There was one notable exception, however. The Indians of the Northwest Coast—surprising as it may seem—had learned the art of making and using planks.) Virtually all Indian dwellings had a fire in the center, and some sort of hole in the ceiling to let out the smoke. And they all had a floor of earth, except in the Southwest, where the floor was usually plastered.



A TEPEE

From time immemorial, the Indian gave his tepee a touch of individuality with figures of men, moons, and animals; triangles, circles, and other geometrical designs, painted on the skin covering in solid red, blue, and orange.

And most Indian villages in the primeval forest were protected by a stout stockade, a precaution that was quickly adopted by the early white settlers.

It may well be that tree-trunks leaning together in the forest suggested to the Indian of the woodlands the type of dwelling he was to adopt. Or it may have been the shape of the pine tree. At any rate, the tepee, or ti-pi, (the name comes from the Sioux word "ti," meaning "to dwell," and "pi," meaning "used for,") consists of a framework of three or four central poles which come together and cross near the top, upon which other poles are laid, and then an outer covering of skin or bark. The smoke hole is formed by leaving

the top open, except in rainy weather. The tepees of the Plains Indians were distinguished by two flaps like ears, supported by extra poles which could be shifted in accordance with the direction of the wind to keep the smoke from being blown back into the hole.

A shrewd scout could take one look at an encampment and make a fair guess at what tribe lived there, from the number of sticks used for the tepee, and other signs. Such tribes as the Blackfoot, Comanche, Crow, Omaha, or Shoshone used four sticks, for instance, while the others such as the Assiniboin, Pawnee, and Plains-Cree used three.

Used by a large proportion of the American Indians, tepees were most often to be found in Northern New England and the area to the West, including the Northwest. They are universally popular with small boys of our own tribe, and have been adapted for military use by the Big Chiefs of our armed forces. When the average person thinks of an Indian home, the chances are he thinks of a tepee.

However, tepees were by no means universal, especially among the western prairie tribes. A traveler through the plains might occasionally catch sight of a mound with a smoke-blackened ring in the center. Beneath it he knew there must be one of the earth lodges of the Mandan or Hidatsa tribes of the rolling Dakota prairies.

To build such a mound, the Indians would draw on the ground a circle thirty to sixty feet in diameter, and dig out the earth inside it to a depth of one or two feet.

This is the way earth lodges were constructed, not only in the Dakotas, but also, with variations depending on the region, in California and British Columbia. A ring of crotched posts supported cross beams on which the Indians laid slender, tapering tree trunks stripped of their bark. On top of this went layer after layer of willow branches, thatch, and shingle-like clumps of sod, tamped on with earth to make the house waterproof. The men did the heavy work of cutting down, hauling, and setting up the solid framework. Binding the posts together and putting on the thatch and sod was the work of the women. The inside walls of the lodges were hung with shields and instruments of war.

Many families lived together in the same lodge, and in the lodges of the Plains even the horses and dogs were brought into the family circle in winter time.

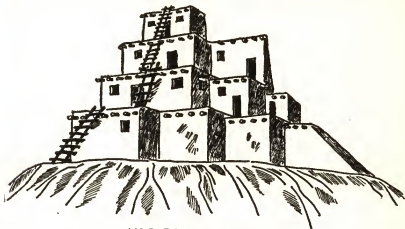
Like the modern man of means many an Indian maintained both a summer and a winter residence, and moreover paid taxes on neither. Thus there could be found in the East, in addition to the tepee, the rectangular summer house on a framework of poles covered with bark. There were also dome-shaped houses of bent saplings, which could be covered with mats for winter use.

But the most interesting type of dwelling in the Eastern woodlands was the "long house" of wood and bark, divided into partitions with a passage



down the middle, in which from twenty to forty families lived a communal existence, sharing the yield of harvest and hunt. Along the South Atlantic coast the Indians built rectangular houses whose walls were a kind of plaster of dry mud on a foundation of wicker work.

The cactus-dotted deserts of the Southwest were inhabited by three different Indian races, each with its characteristic and appropriate form of abode.



AN INDIAN SKYSCRAPER

The nucleus of each pueblo, or village, in the Southwest, was a large, honeycomb-like, communal structure, whose form has remained virtually unchanged since it first challenged the gaze of Coronado's warriors. Yet the masonry, usually of adobe bricks, was not lasting unless carefully protected from the rain and frequently replastered, and the ceilings were frequently little more than clay tramped down over beams, cross poles, and brush. The men acted as carpenters, the women as masons. But their highest achievement was as architects and planners. By terracing back each successive story for the sake of light and air, they anticipated the modern skyscraper by centuries. Doors and windows are comparatively recent.

The village dwellers, such as the Hopi and Zuñi, lived in pueblos. The nomadic tribes, such as the Navajo, lived in "hogans," and some of the semi-sedentary tribes, such as the Pima, lived in flattened, dome-shaped houses which had no smoke-hole, the only opening being the low doorway.

The Indians of all of California except the Northwestern part lived in simple shelters covered with bark, grass, brush, or earth. Some had no roofs, and were little more than windbreaks.

Another example of communal living! The comparatively civilized "pueblo dwellers" of the Southwest were the only races north of Mexico to develop multiple houses. Their buildings, with their retreating terraces and roof garden, suggest the most modern type of skyscraper.

Once again the Indian turned to the materials nearest to hand. From the soil of the Southwest it was easy to make bricks, and easier still to let them

bake in the hot sunshine. This mixture of sun-dried mud and straw was given the name of "adobe" by the Spaniards when they came. The walls, floors, and roofs of the Indian pueblos were made of these adobe bricks held together by masonry of the same material. The roofs were supported by beams which projected beyond the outer walls—another characteristic later taken over by the Spanish.

Many pueblos are roughly pyramidal in shape. First there is a large rectangular ground story. Above that is another of the same shape, terraced back on three sides. Above that is still a smaller one, and so on up to a height of four, five, or more. The pueblo at Taos, with its six stories, is the highest still standing.

Sometimes, as at Santa Clara, the pueblo surrounds a large court. It is terraced back from the court on the inside, but on the outside the walls are left sheer so that they are easier to defend. Some pueblos, as at Acoma, have streets running through them.

Early pueblos had no doors, and only an occasional window, high up. To enter his dwelling, the Indian climbed a tall outside ladder leading to the roof, passed through a hatchway in the roof, and descended into the room by means of another ladder inside. The hatchway also served as a smoke hole, since it was directly over the pit in which the fire was built.

In every village there was at least one large underground chamber called a "kiva." It was used for assemblies and ceremonies, and also served as a club room for the men of the tribe.

Then came the Spaniards, and the Pueblo Indians were not slow to adopt their corner fireplaces, and their chimneys, which they copied by using broken earthenware pots, cemented one above the other. From the Spanish, too, they copied the round beehive-like ovens which are often seen on the ground near the pueblo, or on the roof.

The Navajos, originally roving hunters who traded the game they captured for the corn grown by their more civilized neighbors, the Hopis, took to sheepherding with the coming of the Spanish. During their months of wandering, they were satisfied with a light brush shelter, but when they settled down for any length of time they lived in "hogans," made by bringing three large logs together at the top, laying poles over them, filling the interstices with brush, and piling earth on top of that. They were roughly conical in shape, somewhat like the tepee, but squatter. Between the doorway and the point of the roof, there was a smoke hole.

An amazing victory of native intelligence over obvious limitations was the mastery of the art of making planks by the salmon-fishing Indians of the Northwest. First felling a tree by applying a fire at its base, they then burned it through again higher up, so as to get the required length. Then they hammered a row of wedges into the trunk, which split it lengthwise into two halves, each half having the rounded bark-covered surface on one side and a

flat, plank-like surface on the other. Then they split each half again, repeating the process until they had planks of the right thickness, to be smoothed down with their rude adzes and chisels.

With these fine planks they built large, rectangular houses with gable roofs, not very different from our own frame houses. They had this peculiarity, however: the inner framework, a double row of heavy, upright timbers which supported two massive roof beams, was built to last. The lighter outer covering of planks, on the other hand, was changed as often as desired—sometimes every year, sometimes only when the owner died. The roof, which sloped gently from front to back, was made of overlapping planks.

Farther to the north were the Eskimos, who in summer lived in skin tents, with a circular framework of vertical poles covered with sealskin at the back where the owner slept. The front was covered with a thin membrane which admitted the light. No smoke hole was needed, as cooking was done out of doors.

The Eskimo's winter home, the igloo, was built by laying blocks of frozen snow in a mounting spiral. Each row slanted or leaned in a little more than the one before it, and at the top was a block serving as a keystone. At the side, or back of the main room, were one or two small, vault-like chambers used for storage. The entrance was a long, low tunnel. The window was covered with the intestines of a seal, or a pane of fresh ice.

## FURNITURE

The squaw didn't spend many hours a day dusting the furniture, because there wasn't any—to speak of. The brave's favorite chair was his own heels on which he had trained himself to squat for hours at a time; his bed was a pile of skins or dried grasses. But everything he used he made himself, from the materials he found at hand, so that a description of an Indian's everyday things and how he made them would give a fairly accurate picture of his entire existence.

He had tamed the Fire Spirit and taught it to do his bidding. But to call it into being was no easy matter. So when lightning came down from the clouds and ignited trees, or when damp bark or peat smoldered and burst into flame of its own accord, he lit a punk or torch at the blaze and carried it for miles to his hearth.

One way to make fire was to strike two stones together—a piece of flint against a piece of iron pyrite. This resulted in a shower of sparks, which, falling into carefully prepared tinder such as finely shredded cedar bark or dry grasses, could be blown or fanned into a flame.

There was still another way to make fire, as John Smith observed. "Their fire they kindle presently," he wrote, "by chafing a dry pointed sticke in a hole of a little square piece of wood, that firing itself, will so fire the mosse,

leaves, or any such like drying thing, that will quickly burne." This was usually done by drawing a bow back and forth, the bowstring being wound around the top of the stick. As the stick revolved it ground out a fine wood powder which eventually caught fire from the friction. The ignited powder either fell through a slot onto some tinder, or was carried to the tinder by hand.

"White man build big fire and keep cold, red man build little fire and keep warm," is an old Indian saying. In the center of the home was the life-giving fire, and home life was built around it. It kept the abode warm, cooked the food, and provided light in the form of blazing pine knots and torches. The Eskimo's blubber lamp performed the same service in the long darkness of the northern winter.

Many Indians utilized the principle of the "fireless cooker." This is how a woodlands Indian, Gawaso Wanneh, describes it: A fire was built in a pit, then the embers were scraped out. Next the pit was lined with leaves or bark, and the roots, beans, potatoes, corn or even game to be cooked was put in and covered with earth, over which the glowing embers would once more be scraped.

Another way to cook was to stretch the paunch of a fresh buffalo on sticks, or stretch a piece of rawhide over a hole, fill it with water, and then make the water boil by putting in stones heated in a near-by fire.

For "tableware" (without the table) the Indians who lived in forests used wooden bowls laboriously scraped or burned out of the knots or burls of hardwood trees. These were used for ceremonies as well as for serving and eating. The Indians of the Northwest used high-ended wooden dishes of much the same shape as their canoes. In many regions horns of mountain sheep and buffalo provided cups and spoons; in others calabashes and gourds served as drinking vessels.

In the buffalo country, skin bags were used to hold food that was to be preserved, and, incidentally, for every other conceivable purpose—just as



AN INDIAN TRAVELING BAG

The parfleche was nothing more than a roughly rectangular piece of rawhide, with flaps which fold over inside the ends, much in the manner that little papers containing pills and powders were folded by old time druggists. It was often beautifully decorated with geometric designs.

baskets were among the basket-making Indians. In addition to their use for storing and transporting food, the parfleches, as the skin bags were called

(from the French, meaning "protection against arrows"), were used as "medicine" bags, tobacco pouches, and knife cases.

Precious to the Indian was his medicine bag and essential to his well-being. For, in addition perhaps to a few shreds of timber, pipe, and tinder, it contained a "sacred thing"—a bone, a claw, a stone. With this amulet he could commune in solitude, he trusted it and confided his life to it; if he lost it he was plunged into despair.

It was no simple matter to treat the raw buffalo hide from which so much of the Plains Indian's equipment was made. First the skin was pegged to the ground, or laid over a log, and the tissue, fat, and dried blood were hacked away from the flesh side with a hoe-ended piece of horn. After it had been cured and bleached in the sun, it was scraped down to an even thickness. To give it a soft finish, a batter of buffalo brains and fat was rubbed into the skin, first by hand, and afterwards with a stone. Then the skin was soaked in warm water, and rolled up into a bundle. After it had shrunk, it was stretched out again, scraped once more, dried, whitened, and softened by being pulled back and forth through a loop of twisted sinew. It was often colored or tanned in the smoke of a smudge fire.

Somewhere, many years ago, a savage studied the matted texture of a bird's nest, with its intertwined sticks and grasses. And the idea of the basket was born.

Makers of the most beautiful baskets were the Pomos of the Southwest. The colors they used, according to Wanneh, had a definite meaning. Red



A BASKET

Baskets were made by plaiting, twining, or coiling rods, splints, withes, or grasses together. They were also made of wicker work. For cooking, baskets had to be watertight, so you can imagine how carefully the job was done.

stood for bravery and pride, whose symbol was the woodpecker; yellow, for love, success, gaiety, and fidelity, symbolized by the lark. Blue stood for cruel cunning and perfidy, symbolized by the jay; green—astuteness, discretion and

vigilance, typified by the duck. Black, (the quail), stood for family, love and beauty; white (wampum shells) for riches and generosity.

From the weaving of the baskets, it was not a great step to the weaving of textiles. But before something can be woven, it must first be spun into thread. Many tribes used to spin fiber or sinew, and they had a curious way of doing it. "Betwixt their hand and thighs," runs Smith's account, "their women used to spin, the barks of trees, Deeres Sinewes, or a Kind of grass."

The wheel, you remember, was unknown. And by the same token, so was the spinning wheel. But spindles were used, and the Pueblos used a loom. For ceremonial purposes, the men did the weaving, and the prospective bridegroom made all of his fiancée's trousseau. In the salmon area, and the Eastern



WAMPUM

In addition to their use as currency, wampum belts carried a message. Each shade had its significance; purple or black stood for the serious side of life, white for peace and gaiety. When war was intended, belts were dyed red. The symbols on this marriage belt of purple wampum represent a man and a woman and four wigwams.

corn country, the warp was suspended from a horizontal bar, the weft being pushed into place by the fingers. With the introduction of sheep by the Spanish, several tribes became weavers of wool, and the Navajo, finding here a new channel for his imagination and taste, produced some strikingly beautiful designs. All sorts of strange materials were used for weaving in different parts of the country: fibers of the bark of cedar and sage, fibers of corn husks and hemp, of pemmenaw grass and yucca, of nettles and milkweed, not forgetting the maguey or century plant. Some tribes even used feathers, twisted bits of rabbit fur, the wool of the Rocky Mountain goat, or the hair of buffaloes, dogs, and humans.

Here was used a buffalo hide, there the basket. But where sun fell on clay another type of utensil was universally employed. The four elements—earth, air, fire, and water—were utilized by the Indians in making pottery. In about the same regions where corn was grown, pottery is to be found, and like corn, it seems to have come up from the South, the land of sun and heat and desert, where durable vessels for holding and storing water were indispensable.

Carefully chosen clay, after being washed and kneaded, was "tempered."

That is, bits of broken pots, called shards (potsherds), shells, sand, and gravel, were worked into it so that it would not crack when the water in the clay evaporated. Then the clay was made into long ropes, which were coiled up from the bottom in spirals and rubbed smooth. (Like the spinning wheel, the potter's wheel was unknown in this land.) Afterwards the vase was dried in the sun, and fired in a steady even fire of buffalo chips or sheep manure.

Peace and friendship were symbolized by the lavishly ornamented 'calumet' of the Plains, a pipe with a stone bowl and pottery stem. At the beginning of each important conference it was passed from hand to hand . . . woe to the white visitor who failed to conform to the Indian custom! The familiar elbow-shaped pipe was smoked in the East and the Plains, but in the West a tubular pipe was used, often as not a piece of cane stuffed with tobacco, which may be regarded as the legitimate ancestor of the cigarette. On the Pacific Coast, Indians chewed tobacco mixed with powdered shells or ashes.

Most of the redskin's adzes, chisels, scrapers and hatchets were made as arrowheads were made. The first thing was to find a little piece of hard stone like flint, jasper, or obsidian, which gives off a shell-shaped chip when struck a glancing blow with a hard object such as a hammer-stone. Such a piece of stone was chipped until it took the rough shape of the arrowhead or tool. In the finishing, smaller flakes were pressed off and the ridges between the grooves pecked away. Many, however, were stored away to be finished later or used in trading. Caches have been discovered containing as many as two hundred thousand of these semi-finished products of American native industry. The shaft of the arrow was made of hard wood or cane.

The bow was a beautiful weapon. Usually not over three feet long, it was made of tough, elastic wood, or wood backed with sinew, or sinew spliced together, and sometimes of the horns of buffalo, mountain sheep, or elk.

Buffaloes were killed with lances, seal with spears, and whale with harpoons. The range of lances and javelins was increased when they were slung from a long flat piece of wood called a "throwing-stick." The blowgun was a long tubular pipe through which poisoned darts were blown. The tomahawk, a short stick of hard wood with a knob on one end, or a short hatchet, was most effective in hand-to-hand fighting, and was the symbol of war.

While it was customary to ride into the fray stripped of all save breech-cloth, moccasins, and headgear, some tribesmen protected themselves by putting on several skin shirts, one over the other. Sometimes the shirts were big enough to cover the horse as well! On the Pacific coast warriors wore armor of wooden slats, reminiscent of the military trappings of their Asiatic cousins.

The light rawhide shield carried in battle was so elaborately decorated that it may have been cherished as much as a charm as a defense against

arrows. For the Indian was a mystic. He sensed the relation of everyday things to the flow of life in general, and this relationship he expressed in symbols. They were to be found on the elaborately carved totem poles, prows of dugouts, boxes and bowls of the region of the great cedars; in the pictographs, or simplified drawings of men and animals on the buffalo hides, tepees, and painted parfleches, or folding bags, and the blankets and inlaid turquoise mosaic ornaments of the Southwest. Most beautiful of all was the quill work. Porcupine quills, after having been soaked and dyed in various colors, were sewn into the skin used for shirts and robes quill by quill, a work requiring patience—a virtue in which the red man was never lacking.

Wampum, made of shell, stone or bone, cut into pieces about a third of an inch in diameter with a hole in the center and polished as smooth as glass, was used for decoration, to record names and events, as messages, and eventually as a measure of value. When an enemy had been killed, his relatives could sometimes be assuaged with gifts of wampum.

### CLOTHES

You remember Kipling's Gunga Din, who wore "nothin' much before, an' rather less than 'arf o' that be'ind." The same description might well have been applied to the everyday costume of the average American Indian. The colonists spoke of the Indians as "naked savages," and the colonists were right.

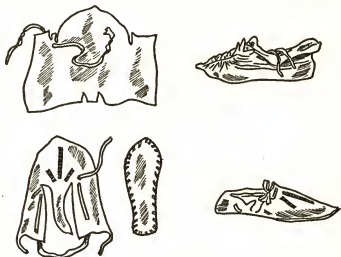
"They went totally naked," wrote Columbus. "They were well made, with very good faces, hair like horse-hair, their color yellow, and they painted themselves." He gave "to some of them some colored caps, and some strings of glass beads for their necks, and many other things of little value, with which they were delighted, and so entirely ours that it was a marvel to see." Samoset, the first Indian met by the Pilgrims at Plymouth, must have impressed them with the scantiness of his attire, for they presented him with "a hat, a pair of stockings and shoes, a shirt, and a piece of cloth to tie about his waist." Presumably they felt that to expect him to wear trousers would be going too far.

All over the mainland save parts of the Columbia River Valley, where they went stark naked, the savages wore at least a breechcloth. In the days before Columbus it probably consisted of two small aprons of dressed skin, one in front and one in back. With the coming of the white man, these were replaced by a skin cut in a broad strip, or cloth drawn up between the legs and tucked through the belt in front and back.

In breechcloth and moccasins, the Indian considered himself fully dressed, and wouldn't mind being seen anywhere. If he wished to look impressive, he wrapped himself in his dignity. For cold weather wear, he might add a robe made of the skins of the buffalo, deer, bear, and smaller denizens of



the forest. It was usually thrown over one shoulder and brought under the arm. Some Indians wore capes of silk grass, others mantles of turkey feathers. One of Powhatan's warriors, for instance, who attacked the colonists "dyvers tymes" as they marched overland, wore swan's wings fastened to his shoulders, and was dubbed "Jack of the Feathers." When the traders brought their "Indian blankets," and when fur became a much sought-after commodity, such articles of adornment disappeared from the scene.



FOOTWEAR

Like most of the Indians' everyday things, the moccasin had a symbolic meaning. Often, to put on the moccasins of another tribe, meant adopting its customs and laws. In some localities, prisoners of war who were going to be taken into the tribe were given new moccasins, so that they might walk in the right path; sick persons and lovers wore moccasins with special decorations. The upper example is a true moccasin, made in one piece with a soft sole. The other, a two-piece moccasin with a hard sole, resembles a shoe.

The comparatively more civilized, and correspondingly less romantic Pueblo Indians wore cotton kilts; their women, straight cotton poncho-style dresses. Women of other tribes wore shirts made of skins, straight like the poncho and usually without sleeves. In colonial days jackets and shirts for both men and women began to make their appearance. Other tribes sported shirts made of two skins, one in front and one in back; the poncho worn by women was rectangular, with a slit in the middle for the neck, and two for the arms.

When the brave set about making a robe, he took care to preserve the shape of the buffalo, moose, or whatever it happened to be. He also left the hair and tail on. Custom tailoring was not indulged in—with one exception which takes us all the way back to China. Thousands of years before such



A DAKOTA MAIDEN OF THE 1870's

This dress of two elkskins, with curious open hanging sleeves, is elaborately decorated. The whole upper part is a mass of pale blue quilled work, with the pattern outlined in dark blue, yellow, and red; the strip across the bottom of the skirt is also pale blue. Dressmaking was one of the squaw's most important tasks: she had to dress an average of two buffalo skins and one deerskin a month and make the clothes for about ten persons. Bone knives, quill flatteners, awls and needles were seldom idle.

things became known in Europe, the Chinese had tailored costumes, and the custom—or the costume, as you will—spread north into Siberia and across into Alaska and Canada. That is why the Eskimos and the neighboring Caribou Indians were the only ones to wear “tailored suits,” beautifully made of dressed seal and caribou skin.

Modesty satisfied, there arose the question of protecting the feet against thorns and sharp stones. The Indians began by wrapping the foot in a soft piece of skin. Then they found that it was more practical to shape the skin to the foot and sew it up with sinews. This was the type of moccasin favored in the Eastern woodlands. For the hard dry trails of the plains a rawhide sole was added. Sometimes overshoes, or over-moccasins, waterproofed by soaking in oil, and stuffed with buffalo wool for warmth, were used. Variations in moccasin types and their decoration made it possible to tell what tribe a man belonged to from his footprints on the trail.

Leggings, too, were used, for protection against briars, brush, and the prickly growths of the desert.

In one respect at least, the typical Indian warrior was magnanimous. He carefully tended and raised up a crowning tuft of hair so that his enemy would have the least possible difficulty in scalping him. It must have been an unwritten convention—the scalp lock served as an ornament or a trophy, depending on the fortunes of battle.

Generally speaking, although it was his custom to go bareheaded, even in winter, the brave gave as much thought to the way he wore his hair as any marquis at the court of the Roi Soleil. If the old pictures are to be believed, men of some tribes shaved their heads on both sides, leaving a “roach” like a cockscomb in the middle. Women wore their hair long, or in two braids; those of some tribes tied it on top of the head in a tight knot.

Strangely enough, what we think of today as typical Indian costumes were made up of garments palmed off on the so-called savages by avid traders, aided not a little by the missionaries who continually exhorted them to cover up those red skins of theirs. The blankets we think of as “Indian blankets” were originally part of the trader’s stock, and the garish colors we associate with Indian garb were simply those the trader thought the Indians would like. Before his coming, the Indian often preferred subdued tones in harmony with those of nature. The “Indian suits” little boys wear today are really white man’s suits as adapted by the Plains Indians as late as the 1870’s. And with the coming of the conquistadors, the Navajo forsook his fringed deerskins for the costume of the Spanish gypsy, which he has worn ever since.

Simple and practical as the red man’s costume for everyday use might be, he made up for it on gala occasions by giving free rein to his imagination—



A DAKOTA BRAVE OF THE 1870's

The correct attire for formal occasions in the grass ranges of the Teton Dakotas is here demonstrated by Flat-Iron, genial but impassive chief of the Oglalas. The quilled work over the shoulders is light blue and red; the decorative triangle on the chest is red, yellow, and turquoise. The whole upper part of the deerskin shirt is dyed green; braids are tastefully wrapped in red cloth. Quilled decorations often symbolized the military exploits of their wearer.

which might involve daubing his face with stripes, tying birds' skins and claws into his hair, or even sticking his whole head into the head of a panther. King Powhatan received John Smith wearing what is probably the first 'coonskin coat mentioned in history—a splendid robe of choice raccoon skins with the tails hanging down on every side like tassels. The lesson—that the Indians, too, loved finery—was not lost upon the English. In 1677 the Crown Commissioners presented divers Virginia chieftains and their wives with purple robes, and coronets made of silver plate, gilt, and ornamented with multicolored "false stones." And they frequently traded upon the Indian's vanity to mulct him of some valuable holding. An Iroquois chief once told Sir William Johnson that he had had a marvelous dream, in which Sir William had presented him with a scarlet uniform, resplendent with gold lace, such as he himself wore. Sir William immediately made him a gift of just such a uniform. But a day or so later he told the chief that he, too, had had a wonderful dream, in which the chief presented him with a large tract of land. As the chief complied in his turn, he remarked rather glumly that the white man "dreamed too hard for the Indian."

The ceremonial garb of the Indians in Virginia was picturesque.

"Their attire is skinnes of Beares and Woolves," wrote Captain Smith of one tribe. "Some have cassacks made of Beares heades and skinnes that a mans necke goes through the skinnes neck, and the eares of the beare fastened to his shoulders behind, the nose and teeth hanging downe his breast, and at the end of the nose hung a Beares Pawe: the half sleeves coming to the elbows were the neckes of Beares and the armes through the mouth, with pawes hanging at their noses. One had the head of a Woolfe hanging in a chaine for a Jewell; his tobacco pipe three quarters of a yard long, prettily carved with a Bird, a Beare, a Deere, or some such devise at the great end, sufficient to beat out the brains of a man: with bowes, and arrowes, and clubs, suitable to their greatnesse and conditions."

But no matter how fantastic, the ceremonial attire of the Indians of the forest did not match in splendor that of the Plains tribes. Here shirts were elaborately and beautifully decorated with varicolored porcupine quills, ermine, and the scalp locks of enemies. Here were worn the great war bonnets, trailing headdresses in which every feather represented a military exploit. The war bonnet had a special significance. Carefully preserved in a rawhide case, it was hung on a tripod in the back of the tepee. Sweet grass was burned before it and songs sung in its honor.

## FOOD AND AGRICULTURE

It is probably more fun to hunt buffalo than to sell real estate. The modern business man devotes most of his waking hours earning the wherewithal to pay for his house, his furniture, his food, and all his other everyday things, and calls this his 'career.' The chance of getting a raise, making a big sale, or

being promoted to vice president, gives zest to an existence which might not seem particularly exciting to an Apache or a Shawnee.

The Indian knew perfectly well that most of his day went into the getting of food, and he had rather a good time doing it. The hunting of buffalo, the tending of corn, the gathering of wild rice, of nuts and acorns, had a great effect on his everyday life.

Because he lived on buffalo meat, for example, the Plains Indian found it convenient to use the hide for robes, headdress, and moccasins; for covering the tepee and lashing its poles together; for his bed, for his saddle, and for his saddle covers; and also for his shield. Buffalo hide was also used for the hafting of his stone tools, the rattles he used in his religious ceremonies, his parfleche traveling bags and medicine bags, and the "bull boat" in which he floated down the river. The vessels he cooked in and the pails



A BUFFALO

In the days before the advent of the Europeans, and for a long time after, the herds of buffalo roamed the prairies in such numbers that the air hung heavy with the dust of their going. There is an old saying that "the Indian lived off the buffalo, and the White Man wiped out the Indian by destroying the buffalo."

in which he carried water, were made from the buffalo's paunch and bladder. Dishes, spoons, and implements for carrying glowing coals were made from the horns. Bowstrings and snares, sewing thread, cord, rope, and wrappings, and even arrow points, were made from tendons. His hoes came from the buffalo's shoulderblade. Other bones provided him with tool handles, tools for dressing skin, knives, awls, and needles, arrow and spear points, beads and ornaments, and even "bones" for the noble sport of "rolling the bones." The hair was twisted into cord for ropes and for weaving; the hoofs and dewclaws were made into ceremonial rattlers, ornamental pendants, and glue.

By way of completing the cycle, he used the tail for brushing away flies, thereby, as you might say, meeting the buffalo on his own ground.

Buffalo hunting was an art. The braves exercised great ingenuity in their attempts to surround the herds, and drive them into an enclosure or even a ring of fire. Sometimes the Indian disguised himself as a buffalo, lured the herd into a bottleneck of artificially made mounds, and stampeded them over a bluff. At other times, disguised in a white wolf skin, he went right into the heart of the pack to single out his prey. In winter the buffalo could be driven into drifts where they were helpless.

Fresh buffalo meat was eaten boiled or roasted, but as the hunts took place only at fairly long intervals, it was more practical to dry it on racks in the sun, out of reach of the dogs. To make it keep indefinitely, and to make it easy to carry, it was pounded fine with stone-headed pounders. In this form it was known as "pemmican," and, if there had been added a paste of crushed cherries—pits included—it was known as "berry pemmican." In other regions, pemmican was made of the meat of moose and caribou. Trappers and Indian fighters of frontier days liked pemmican, and it is still used by explorers today.

In the Eastern woodlands, and also in the Southwest, the great staple was maize or Indian corn. If the Indians of what are now Massachusetts and Virginia had not befriended the early settlers in their time of stress, if they had not given them corn and also shown them how to plant and tend it, the colonization of the Atlantic coast by the English might have been delayed by as much as a hundred years. The interval would have given the Spanish and the French time in which to gain a firmer foothold, and the whole character of our civilization might have been different. Indian corn even found its way to Europe and helped raise the standard of living of the poor there.

"The greatest labor they take," wrote Smith of the tribes in the tidewater region, "is in planting their corne, for the country naturally is overgrown with wood. To prepare the ground they bruise the barke of the trees neare the roote, then do they scorch the rootes with fire that they grow no more. The next year with a crooked piece of wood, they beat up the woodes by the rootes; and in those molds, they plant their corne. Their manner is this, they make a hole in the earth with a sticke, and into it they put four graines of wheat and two of beans." Often a few kernels of corn, and a few bean and squash seeds, were planted in little hillocks and fertilized with dead fish.

The ears were eaten boiled or roasted, sometimes in a "fireless cooker," as has already been described. To make meal, corn was cut from the cob while "in the milk," and ground in hollowed-out bits of log with wooden pestles. Corn bread and cake were baked in ashes, and parched corn was made into a sort of pemmican. And little red-skinned children, like their white cousins, found popped corn very toothsome.

The French traveler de Bry wrote: "Their meate is mayz sodden, . . . of verry good taste, deers flesche, or of some other beaste and fishe."

And who recorded the first recipe for "corn pone"? Why, none other than the ever-observant Captain Smith. "Tempering this flour with water," he wrote, "they make it in cakes, covering them with ashes till they be baked, and then washing them in fair water, they dice presently with their own heat."

All this was women's work. What interested the brave of the woodlands was hunting, and he would wait motionless for long intervals near a trail or water hole to send his arrow through the flank of a buck or doe. Often he used more subtle methods. "Thus shrouding his body in the Skinne by stalking, he approacheth the Deere, creeping on the ground from one tree to another. If the Deere chance to find fault, or stand at gaze, he turneth the head with the hand to his best advantage to seeme like a Deere, also gazing and licking himselfe." Only enough game was hunted to balance the diet, which tended more and more to be a vegetable one as one went further south. In addition to corn, beans and squash, these well-tended gardens contained pumpkins, sun-flowers and, in southern climes, millet, melons, sweet potatoes, and gourds.

In the lives of the Pueblo Indians, the village-dwellers of the Southwest, corn played an even more important role. For safety's sake, their pueblos were often situated at the top of cliffs, and their fields were often far away. In river bottoms, near springs, or in gulches which had been dammed up to hold the water during the rainy season—wherever there was a precious drop of moisture, their crops were carefully tilled and harvested. Here, and nowhere else on the continent, it was the men who did the farming. The corn was planted in large mounds quite far apart, and protected from wind and sand by wind drifts of brush or stone. The farmers used planting sticks and hoed with wooden paddles. Ceremonies and dances accompanied the seed-time and the harvest.

In the old days, the corn, often parched or roasted beforehand, was ground in troughs, in special rooms in houses set apart for the purpose. Rhythmically the squaws ground, and sang to the accompaniment of a fife played by a man in the doorway. On slabs of stone the meal was made into bread as thin as paper, which would keep indefinitely, and was easy to carry about. It was called "piki."

Corn was so vital to the village dwellers that they sometimes stored as much as a year's supply underground, in case the crop should fail. This custom was well known to the restless Navajos, who did not hesitate to raid the pueblos for their stocks of life-sustaining grain.

Many another part of the land too had its indispensable staple. In what is now Wisconsin and Minnesota, in the early autumn, the squaws, in their canoes, visited the quiet back waters of streams, and unruffled lakes and ponds in search of wild rice. They tied the stalks into bundles, and when







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#### THE CANOE

This painting by Frederic Remington was made to illustrate Longfellow's "Song of Hiawatha":

"And the forest life is in it—  
All its mystery and its magic  
All the tightness of the birch-tree,  
All the toughness of the cedar,  
All the larch's supple sinews,  
And it floated on the river  
Like a yellow leaf in autumn,  
Like a yellow water-lily."

the rice was ripe, returned for the harvest. Sometimes the stalks were held over the canoe and beaten then and there; at others, thrashed under foot. Winnowed in the wind on a basket reed tray, the rice could be dried in the sun on mats, bark, or blankets, or on a long scaffolding over a slow fire, or parched and popped in a kettle, stirred with a paddle. It was eaten boiled, with corn, fish, or maple sugar. And the Indians liked rice pudding.

In Southern California the Indians of the days before Columbus were obliged to spend their days patiently gathering acorns and digging up roots and plants. The acorns that fell from the great oaks spreading their shade over the western slopes of the Sierras, and the wild seeds of the plateaus, were painstakingly garnered and stored in jars and basket-work bins to protect them from rats, weasels, and ground squirrels. To get rid of the bitter taste imparted by the tannic acid in the acorns, the kernels were pounded into flour, leached in water-tight baskets, and made into bread or cake. Sometimes these California Indians, who liked to vary their diet with small game when they could get it, organized great rabbit drives. But many of the tribes in the interior had to eke out their existence with roots, plants, grass, and even flies, mosquitoes and grasshoppers. The pioneers, who had developed a good deal of respect for the Buffalo Indians as they crossed the Plains, expressed their scorn for these grubbing aborigines of the Coast by referring to them as "Diggers."

The only Indians who can be truly classed as fishermen were those of the Northwest coast. At the time of the spring run, when the pink-bellied salmon entered the inlets by the tens of thousands, boiled up the rapids, and leaped in the face of the thundering falls, nets would be stretched between canoes, and hauled in teeming with fish. Higher up the river were pools where the salmon rested after their exertions; here they could be speared from a projecting ledge, or caught with a net or gaff hook. At other places weirs were built—basket traps, operating on the principle of the flytrap of today.

From the candlefish or eulachon, caught in bag-shaped nets attached to piles driven deep into the river bed, the Indians of the Northwest made oil. The candlefish, as they arrived at the beginning of their run, were pursued right up to the river's mouth by seals, sea lions, and whales, and by clouds of sea gulls who went up the river. The eulachon oil was highly prized, and runners carried it far into the interior for trading purposes. The trails they made came to be known as "grease trails."

The Salmon Indians, however, did not confine their fishing to shallow water. In their big log canoes they went far out to sea after whale and porpoise. The whale might be struck by as many as forty or fifty harpoons, to which sealskin floats had been attached to prevent his sinking. He could then be given the *coup de grace* with lances. In pursuit of the swift black porpoise, special racing canoes were used.

When the salmon was running, these Indians came down to the river

banks; when the berries were ripe they moved into the berry country; later they moved to where they could gather roots, and afterwards into the woods that were full of deer. Year after year, they went to the same places at the same time, like the migratory pickers of today.

The aborigine's way of eating, as described by the colonists, would not appeal to a modern gourmet. Here his kinship with animal life asserted itself. He would gorge himself with freshly-killed game, or gobble toads and snakes with relish, and, if hunger drove him to it, was capable of chewing and digesting his own moccasins or skin mantles. One army officer relates how he lost his sentimental admiration for an Indian maiden when he saw her plunge her hand into a fresh carcass and devour what she drew out of it. And some English soldiers celebrating a victory over the French with their Indian allies, lost their enthusiasm for the banquet when they saw a Frenchman's hand floating in the stew.

## TRANSPORTATION

Even before the Spaniards introduced the horse, the Indian was familiar with "Shanks' mare." When he wanted to go somewhere, he just went. Distances meant less to him than they do to the white man, because he knew how to walk. He kept his foot straight, instead of turning it out, and threw his weight on the front part of it instead of on the heel. He also knew how to run. Around camp fires tales were told of runners who could cover eighty miles between dawn and dusk.

For carrying things, different tribes used different methods. Some used a "tump line"—a long strap running across the forehead to support a pack carried on the back. The French traders later took it over. In the Southwest, the Pueblo Indians were adept at carrying water jars on their heads. The Indians of the Eastern woodlands used a wooden carrying frame shaped like an L; the Algonquins used toboggans, and the Pima made himself a kind of cage of the ribs of the giant cactus, bound with human hair. The beautifully decorated parfleches of the Plains Indians have already been mentioned.

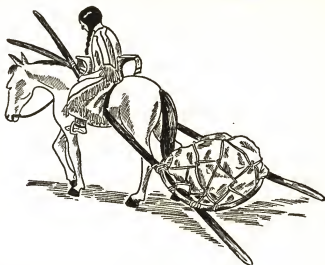
Indian "baby carriages" were a frame of boards, skins, basketry work, cane or sticks, to which the little papoose was tied to be carried on the squaw's back. There was usually a protection for the head, often made soft with deerskin or fiber. In the Arctic Eskimo mothers carried their babies in the hoods of their jackets. Happiest of all must have been the infants of the North Pacific coast, who were carried lying flat in tiny models of war canoes.

Tied to their boards, Indian babies grew up with straight bodies. They couldn't suck their little thumbs, and they soon learned that there was nothing to do but keep still and take life as it came.

Those of us who are lucky enough to get into the woods in winter are familiar with the Indians' wide shoe of netting stretched across a frame of wood, either round or oval in shape but most commonly rounded in front

and trailing off to a point in back, like some strange fish. Often a man's tribe could be told from his snowshoe tracks.

The only beast of burden familiar to the Indians until the Spaniards introduced the horse, was the dog, who, like man, originated in Asia and spread



A TRAVOIS

Before the days of horses, when a tepee was taken down, dogs hauled the poles. There were two poles to each dog, tied together in the middle of his back, and trailing out behind in a V. Eventually it occurred to some Galileo of the plains to put a pack on the trailing poles, and finally to join them with a crosspiece or net to hold the load. The contraption was known as a "travois." With the substitution of horses for dogs, larger loads could be transported.

from there to both hemispheres. Everyone knows what an Eskimo dog sled and team look like. The sled is made of frozen skins or driftwood, with ivory-shod or bone-shod runners, and equipped with a kind of handle in back, often made of deer's antlers.

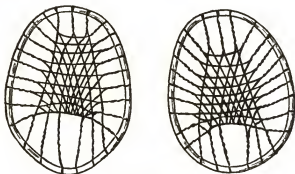
The use of sleds increased as a result of the trade in furs built up by the Hudson's Bay Company and the French trading companies, and they are still popular in Alaska and the Arctic.

"Mysterious-dog," and "Elk-dog," were the names given by the Indians to the horse, when it was first brought in by the Spanish. Never having set eyes on a horse, much less a man on horseback, they were terrified by the apparition.

Yet the horse was to change the Indian's entire way of living, for at last he had a domestic animal big enough to carry him and to haul his travois. The Plains Indians, as a result, were to change from a farming into a nomadic race.

Horses were ridden bareback, or with skin pads stuffed with buffalo hair, deer hair, or grass. Women used a saddle with a high pommel and cantle, copied from those of the Spanish. It was made of wood and horn, and covered with rawhide.

Marvelously adapted to the uses for which it was intended was the Indian's canoe, and we have paid him the compliment of taking it over. Sturdy enough for the waves of the Great Lakes or even the open sea, and staunch and mobile enough to use in treacherous rapids, it was nevertheless light enough to be easily carried. Overturned, it provided a temporary shelter.



SNOWSHOES

Woven webs of rawhide stretched across light frames of wood, snowshoes enabled hunters and trappers to walk on soft snow without sinking in.

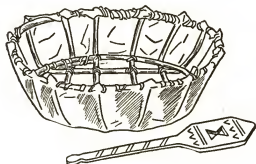
The big birches which supplied the bark to make canoes were reserved as carefully by the Indians of the Eastern woodlands as, later, the tall mast pines of New England were by the Inspectors of the Royal Navy. After the bark had been peeled off, it was "toasted" to make it flatten out and placed inside a form made of stakes. The framework—the gunwales and other lengthwise strips, and the ribs, which had been bent by steaming—was then placed inside the bark. After the bark had been sewn on, often with split spruce roots, the canoe could be taken out of the frame of stakes and the seams gummed with pitch.

The Indians' awkward round tubs of bull's hide stretched on a willow frame, known as "bull boats," continued to be used by the white settlers along the banks of the Ohio and the Mississippi for many years. Another queer Indian craft was the "balsa," a cigar-shaped bundle of reeds, used by the tribes of California and Nevada. But in all the forested parts of the country, wood was the material used. Generally speaking, in the country of small trees, water craft were made of bark stretched on a light frame, for the country of small trees was also the country of small rivers, broken by many rapids and falls around which a light canoe could easily be carried on a man's



A BIRCH BARK CANOE

In later days, when the big birches had died out, canvas replaced bark, and the canoe as we know it today came into being.



A BULL BOAT

These awkward, tublike bull boats were used by the tribes along the Missouri for ferrying. By kneeling in the bow and pulling the paddle toward the boat, the occupant, strange to relate, was able to make considerable speed.



A RAFT OF REEDS

These cigar-shaped balsa boats from Central California were little more than bundles of reeds, propelled by a pole.



A DUG-OUT

More common even than the birch bark canoe, was the boat made by hollowing out or burning out the log of a large tree.

back. In the country of large trees, boats were usually made of hollowed-out or burned-out logs. For the country of large trees was also the country of wide rivers, where portages were rare.

The "kayak" of the Eskimo hunter consisted of a light shallow framework of wood, from twenty to twenty-seven feet long and tapering to a point at both ends. It was entirely covered with skins, except for the small cockpit into which his body, wrapped in a waterproof shirt, fitted snugly. A big wave could turn the "kayak" over without sinking it. Eskimo women rowed boats of driftwood covered with skin. The oarlocks were thongs, and thongs were also used to fasten the oar blades to the shafts of the oars. Three or four women worked each oar. Sometimes they used sails of seals' intestines, with sealskin ropes. These were the only Indian boats used with oars, and probably came across the straits from Asia.

From the giant cedars of the Northwest coast, magnificent war canoes were built, often more than sixty feet long, capable of carrying fifty or sixty people. With their carved prows, they suggest the ships of the Vikings. Sometimes wooden sails of thin planks—suggestive of oriental slat armor—were used. In addition to being the only true fishermen, the Indians of the Northwest coast were the only true seafarers.

### LIFE IN THE COMMUNITY

"For the temper of the brain in quick apprehension and discerning judgments (to say no more), the most High Sovereign God and healer hath not made them inferior to Europeans," wrote Roger Williams of the Indians in the seventeenth century. And it is true that within the limits of what was familiar to him, the Indian's mind was agile. He could tell the north by the thickening of the bark on the north side of tree trunks, and the inclination of the tree tops showed him the direction of the wind. In his mind he could divide the spaces of a long journey into equal parts. The sign language by which members of different tribes communicate with each other is a marvel of ingenuity. In a day when European medicine was primitive, that of the Indians was by no means to be scorned. The use of steam baths as a means to health was practiced all over the continent.

But it is not in any developments comparable to those of European civilization that one must look for the value in the Indian's way of life. It lay in his identification with nature, which caused him to look upon himself as free, while the white civilization seemed to him a form of drudgery. There are many historical instances of white captives who, given the opportunity to return to civilization, preferred to live their lives out among the savages. Moving is the plea of an Osage chief who told the whites: "I see and admire your manner of living, your good, warm houses, your large fields of corn, your gardens, your cattle, your wagons, and a thousand machines that I know not the use of. I see that you are able to clothe yourselves even from weeds



and grass: in short, you can do almost what you choose. You whites have the power of subduing almost every animal to your use. But you are surrounded by slaves—everything about you is in chains, and you are slaves yourselves. I fear if I should exchange my pursuits for yours I too should become a slave. Talk to my sons: perhaps they may be persuaded to adopt your fashions, or at least recommend them to your sons; but for myself I was born free, was reared free, and wish to die free."

The Indian had no church, no meeting house, no books, no theater. Yet the life of the spirit was vivid to him. He worshiped the Great Spirit; he apologized to an animal before he killed it, and prayed for it afterward. The leader of a buffalo hunt fasted and prayed for weeks in solitude.

And his dances had the character of a ritual. The famous Sun Dance of



#### PATTERNS IN THE NORTHWEST

In trying to convey a feeling of religious awe and mystery, the Northwest Indian carver adopted highly conventionalized patterns. By a weird sort of anatomical dissection, parts of the bodies of supernatural beings, and of animals in semi-human form, were distorted to suit the proportions and shape of the object to be decorated.

the Plains was an invocation for the fulfillment of vows, to secure the aid of the gods, and increase one's own power. The young men were hung around a pole by means of skewers fixed through the muscles of back or breast, with their eyes fixed on the sun, and they danced like corpses on gibbets until the flesh gave way and they fell, exhausted and bleeding. Then there was the War Dance, which, with its whoops and yells, its diabolic mimicry, roused the braves to the full fury of combat.

At a later period, after the Civil War, the Ghost Dance of the Plains expressed the Indian's wish to be rid of the white man, to have the life-giving buffalo back, and once more to rule supreme in the land. This was to be accomplished through the coming of an Indian Messiah. From all corners of the camp the braves assembled attired in symbolically decorated garments which the ignorant whites took to be "bullet-proof shirts," and danced until they fell exhausted. Instead of having the desired result, however, these dances brought on repressive measures which included the massacre of over a hundred Indians.

The people of the pueblos were poetic and beautiful dancers, who expressed in this way their desire for rain and good harvests. The most famous Pueblo Dance is the ancient Hopi snake ceremony, in which the dancers carry live rattlesnakes in their mouths. The pueblo-dwellers had absorbed a certain amount of Catholic Christianity and to this day, in the Southwest, Saint's Days are celebrated with a mixture of Catholic and aboriginal rites.

When an Indian dancer put on a mask, he believed himself to be the spirit represented by it. On the Pacific coast plays were acted out telling the story of how families and clans were descended from mythical monsters, terrify-



#### POTTERY OF THE SOUTHWEST

Indian pottery vessels had graceful shapes, and were often artistically painted in regular designs. The pottery of the Southwest is characterized by a pleasing contrast of colors: black on white or gray; black on red; black bordered with white lines on red or buff, depending on the region in which it was made.

ingly impersonated with the aid of masks equipped with rolling eyeballs, wiggling ears, and wagging jaws. Sometimes they were so contrived that if the wearer pulled a string, the mask opened, only to reveal another mask, which must have been bewildering in the extreme.

Pueblo masks, which also represented spirits or ancestors, towered high above the head of the wearer. They were painted in brilliant combinations of colors. The Iroquois carved the faces of their masks on living trees.

Musical instruments were mainly confined to those which mark rhythm, such as the double-headed drum, very like our own, and the single-headed water-tuned drum; and rattles improvised from calabashes, tortoise shell, and rawhide. Crude flageolets gave forth eerie whistles. Sometimes drumming, dancing, and singing all went on simultaneously, each in a different rhythm. To our ears Indian singing might seem crude and monotonous, partly because the use of a five-tone scale, instead of an eight-tone scale like ours, filled it with inharmonious fourths and fifths; and partly because of queer semi-Asiatic quivers and cadences.

Some of their songs were very beautiful. The beauty of nature was not lost on the Eskimo poet who wrote the following lines:

I look toward the south, to great Mount Koonak,  
 To great Mount Koonak, there to the south;  
 I watch the clouds that gather round him;  
 I contemplate their shining brightness;  
 They spread abroad upon great Koonak;  
 They climb up his seaward flanks;  
 See how they shift and change;  
 Watch them there to the south;  
 How the one makes beautiful the other;  
 How they mount his southern slopes,  
 Hiding him from the stormy sea,  
 Each lending beauty to the other.

And here is one the Navajos used as a prayer:

Tsegihi.

House made of the dawn,  
 House made of evening light.  
 House made of the dark cloud.  
 House made of male rain.  
 House made of dark mist.  
 House made of female rain.  
 House made of pollen.  
 House made of grasshoppers.  
 Dark cloud is at the door.

The outward trail is dark cloud.  
 The zigzag lightning stands high up on it.  
 Male deity!  
 Your offering I make.  
 I have prepared a smoke for you.  
 Restore my feet for me.  
 Restore my legs for me.  
 Restore my body for me.  
 Restore my mind for me.  
 Restore my voice for me.  
 This very day take out your spell for me.  
 Your spell remove for me.  
 You have taken it away for me.  
 Far off it has gone.  
 Happily I recover.  
 Happily my interior becomes cool.  
 Happily I go forth.

My interior feeling cold, may I walk.  
No longer sore, may I walk.  
Impervious to pain, may I walk.  
With lively feelings may I walk.  
As it used to be long ago, may I walk.  
Happily may I walk.  
Happily with abundant dark clouds, may I walk.  
Happily with abundant plants, may I walk.  
Happily on a trail of pollen, may I walk.  
Happily may I walk.  
Being as it used to be long ago, may I walk.  
May it be happy (or beautiful) before me.  
May it be beautiful behind me.  
May it be beautiful below me.  
May it be beautiful above me.  
May it be beautiful all around me.  
In beauty it is finished.  
In beauty it is finished.

White men claim the Indian had no sense of humor, and never laughed. Well, he may not have laughed much, but of sense of humor he had plenty and to spare. However, he did not like to show it to the white man. He kept a "poker face" and all his chuckling went on inside. But sometimes when they were off by themselves, the Indians laughed for hours at a time.

Little Indian children received an upbringing that compares favorably with the education of the modern child. Even at the papoose stage, they learned not to whimper, strapped for long hours in an upright cradle leaning against tepee or tree-trunk. They were not spoiled. They learned good manners and respect for their elders. They were not allowed to cry for things, and were given many an opportunity to learn by experience. In addition to dolls, little girls had dishes and utensils, and learned how to make tiny baskets and tiny pots of clay. Boys were taught to shoot straight with little bows and arrows, first at marks, then at small game. It was a great day when the boy was considered sufficiently expert to be taken along on a hunt for big game. Warfare was played at in "gang wars" with cornstalk spears and soft-nosed arrows.

Young and old loved games. In addition to archery, Indians of many tribes liked to play games resembling our shuffleboard, hockey, battledore and shuttlecock, quoits, tops, cat's cradle, and "rolling the bones." They had a propensity for gambling, and sometimes literally "lost their shirts." They even played a game in which the adversary had to guess which of several little wooden tubes concealed a tiny ball, proving that the "three shell" game is no novelty on this continent.

A sport which the Canadians and ourselves have taken over from the Indians is lacrosse, so named by the French Colonists from the shape of the racket used. In one game, observed by Captain Smith and his fellows, the Virginia Indians hit a ball with a bat, in another they kicked it after the fashion of modern soccer. At another game they gambled away their trinkets and their weapons. To the edification of the English, they danced, sang songs, and drank more than agreed with them.

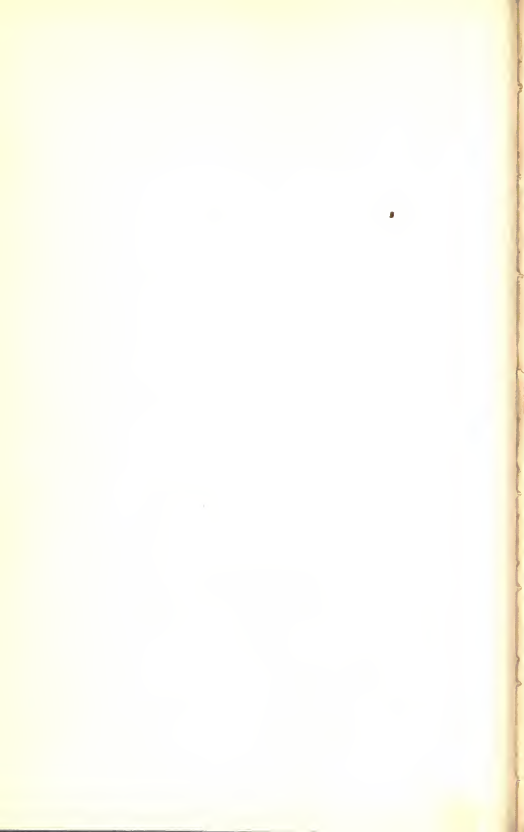
George Catlin, who spent eight years among the Indians in the 1830's, describes a ball game in which hundreds of Indians took part, "running and leaping into the air . . . in the desperate struggles for the ball," before thousands of excited spectators—an activity which would not seem exactly outlandish to most of the people who inhabit America today.





BOOK ONE

The Seventeenth Century—  
The Pioneers





## CHAPTER I

### THE SPANISH: In the Wake of the Conquistadors

#### INTRODUCTORY

**I**F YOU were asked at what period of our history there were armored knights on armored horses roaming over what is now the United States, you might not know. You might be surprised to learn what ancient European civilization gave the Suwannee its name—the Suwannee River sung about in every American home. Who gave us sugar cane and lemons and wheat? Who brought sheep and horses to our shores? Who were the first to wear “chaps”? And who were the originators of the great tradition of Western hospitality?

The fact of the matter is that a considerable section of the North American continent was ruled over by white men more than a hundred years before the two little bands of English pioneers settled at Jamestown and Plymouth. And at the time when the English colonists were huddling over open fires in rough huts, mines were being worked on islands separated only by a short stretch of blue water from the United States. Under the Spanish flag in Cuba and Haiti, fields were teeming with grain, cotton, and sugar cane; the harbors were full of ships, the ships full of treasure. In forts, missions, and haciendas, noblemen and officials lived in a style befitting the proconsuls of a great empire.

In the course of the sixteenth century this empire's brave sailors explored the coastline of the two continents making up the New World. On land their intrepid explorers and men of God pushed up as far as what is now Arkansas. They were followed by colonizers who extended the imperial domain over more than half of what is now the United States.

And who were these people? For the most part they were natives of Castille, a Spanish kingdom with a population less than that of Pennsylvania today. Yet their civilization made an important contribution to the background of our lives which is often overlooked.

Of the hundreds of species of plants now cultivated here, about two thirds were brought by Spanish colonists and missionaries. They it was who brought in many of our domestic animals, and most of our exotic fruits. Our Spanish buildings are the oldest in the country, and redolent of a still greater antiquity: the old mission bell of the church of San Miguel in Sante Fe, New Mexico, was shipped from Spain, and brought up from Mexico City by

oxcart. It bears the date 1356. The paintings on either side of the altar were painted by Cimabue, a thirteenth-century Florentine who was the master of the famous Giotto.

Most of our western riding terms, such as "lariat" and "rodeo," were contributed by the dashing *caballeros*. And the names of many Spanish missions



A FRANCISCAN PADRE

As the most practical way of winning the souls of the Indians in California, the Franciscans turned farmers and builders. By 1823 they had founded more than a score of missions, where some hundred thousand Indians, in addition to being converted to Christianity, had learned carpentry, masonry, blacksmithing, tanning, shoemaking, spinning, weaving, the care of flocks and herds, of vineyards, orchards, and gardens.

survive in the names of cities such as St. Augustine, San Antonio, San Francisco, and Los Angeles, properly *Nuestra Señora de Los Angeles*—Our Lady of the Angels. Hollywood was named from the wood of the True Cross.

## HOUSES

The most picturesque as well as the most characteristic Spanish buildings in America are the missions. Their architecture—and this was also true of

the presidios, or forts, and the ranchos, or homes of the wealthier colonists, was a successful combination of a fine old-world style with a new design and shape imposed by the materials found ready to hand. The style was modeled on Renaissance and baroque Spanish, which in turn drew to some extent on Moorish or Arabic, plus a dash of Romanesque. The old modes were appropriate to their new setting, since in climate and landscape the Southwest is rather like parts of Spain and North Africa. And the use of the characteristic adobe of New Mexico and Arizona, the stone and massive adobe bricks of California, or the oyster-shell mixture of Florida and Georgia, contributed a primitive simplicity and an ingratiating softness of outline.

A hundred and fifty years before the padres established themselves in California, there were many missions in Florida, with as many as thirty thousand converts attached to them. There were some missions as far north as Georgia. Borrowing an old technique of the Indians along the south Atlantic coast, the fathers, according to some accounts, dug the shells out of the prehistoric oyster-shell mounds and stuck them together with sand, clay, and lime, the latter made from the shells themselves, to produce a building material known as *coquina*, and as *tabby*, or *tapia*. Oglethorpe, founder of Georgia, took over and used the *tabby* buildings whose ruins dot the coast from Ossabaw to Cumberland Island, and in later days the planters often built their houses on the foundations of ancient missions and forts.

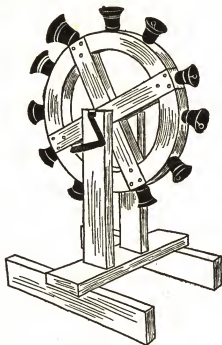
While many of the seventeenth-century missions in Arizona and New Mexico were beautiful and impressive, and while in Texas there were some fine early missions with real masonry vaults and exquisite decorative detail, others in the Southwest were small and primitive. All were arranged on much the same plan.

A high wall enclosed church and cemetery, and the windows of the church were placed high in the walls as a protection against the arrows of hostile Indians. The big heavy doors, which in the old churches turned on wooden pivots, were not often opened; in them were cut smaller doors. As in the Indian pueblos, the walls were pierced at the roof by rough hand-carved beams, visible from the outside, and these have become characteristic of the architecture of the American Southwest.

Sometimes there was a convent. The church of Acoma, built on a cliff at the edge of the mesa, has a thick-walled cloister which is cool even when the sun beats down upon the rocks outside. The thousands of pounds of adobe used in its construction were carried up the cliff by stalwart Acoma Indians, who also lugged the huge roof beams from forests forty or fifty miles away.

Often as not, the walls of a New Mexican church were whitewashed. Sometimes the ceiling was painted with horses, moons and other typically Indian figures in their favorite colors of red, yellow and black. There were neither seats nor floor; the blanket-wrapped congregation knelt motionless in the dirt.

The altars were elaborately and even garishly decorated. There were flowers of paper and glass—despite the lovely flowers in the garden outside!—and a multitude of sacred pictures, cracked and dusty, some painted on skin by native artists. And in various parts of the church were to be found the characteristic carved wooden saints—also the product of crude but not necessarily unattractive native craftsmanship, painted in water colors made from herbs and vegetable dyes.



A PORTABLE BELFRY

To call the faithful to Mass, it was not always desirable to ring the great bells of the mission, which could be heard for miles around. Small enough to be carried by a pair of neophytes, this improvised belfry consisted of a wooden wheel, to whose rim was attached a series of small bells. The wheel was turned by an iron handle.

The statues wore costumes which had been patiently stitched by pious hands. The Virgin might be dressed in black with a white apron, with, over her head, a black *rebozo* such as the ordinary Mexican woman wears. A saint on horseback might be garbed in the costume of a ranchero.

Often, however, the garments were extremely elaborate. The statue of the Virgin in the Cathedral at Santa Fe had a chest to herself full of silks and laces. She had as many gowns as a queen, sewn for her by the women of the town, and the smiths and jewelers made her chains, brooches, and diadems of gold and silver.

As has been said, many of these missions in the desert wastes of Arizona and New Mexico were little more than outposts on the religious frontier. It was not until the beginning of the nineteenth century that the missions were to blossom out in all their glory as complex organisms, and then it was in California.

The buildings making up the California missions were generally grouped around a big open court. If they did not completely surround the court, the remainder was enclosed by high walls of adobe. The most prominent building was of course the church, with the cemetery never far away. Next to the church would be the bedrooms of the priests, and their dining room and kitchen, with probably some rooms for guests as well. Then there would be rooms for the soldiers attached to the mission, and workrooms for weavers, carpenters, blacksmiths, tanners, makers of tile and melters of tallow, keepers of pigeons and hunters of deer, wine pressers, shepherds and singers, and storehouses for all supplies such as butter, wool, hides, and tallow. The church and the house of the father superior faced out and could be entered from outside the square. But all the other buildings opened on the inside of the square, so the good padres could keep a strict watch on all the neophytes, as the Indian converts were called.

The Indians lived in little huts and houses of adobe, the married ones having houses of their own, and the boys and girls living in separate dormitories.

At San Luis Rey three hundred Indians lived within the walls, and three thousand in the village of adobe huts outside.

The building of the great missions was an achievement. Picture these few priests—who often as not had little technical knowledge about either planning or building any structure but the simplest—teaching the Indians how to quarry the stone and get it to the missions, how to make the adobe bricks, to cut down trees and haul them over huge distances. The stones for the high tower of San Juan Capistrano were brought from a quarry six miles away, the larger blocks in oxcarts and the smaller carried on the heads of men and women, old and young, and children too—a thousand Indians in all taking part. The huge timbers were brought from forests sixty miles away, up hill and down dale, by relays of sweating, tugging neophytes.

In all their building, the priests had to proceed by trial and error. Many things had to be done over and over again before they came out right. It took a long time to evolve the flat, heavy bricks of adobe used in regions where stone was not common. These were usually made of mud and straw or grass mixed with bull's blood, or liquefied manure, which the Indians kneaded with their hands or feet and left out in the sun to dry. Often the bricks collapsed of their own weight, or were turned into mud by the heavy winter rains. So walls had to be very thick, and were covered with cement to keep out the rain.

The good fathers had no nails. So they lashed the roof timbers to the cross

pieces with long strips of freshly cut rawhide which shrank as it dried and thus held the rafters in a grip of iron.

The first roofs were covered with tule, but the Indians acquired the unpleasant habit of shooting burning arrows into the thatch of the roofs and setting the missions on fire. Finally one father decided to make tiles, and



THE CAMPANILE AT SAN ANTONIO DE PALA

Beautiful bells from faraway Spain were often hung in special campaniles built either at the mission or on one of the outlying rancherías regularly visited by the tireless padres. Not far from San Luis Rey stands the picturesque campanile of San Antonio de Pala, here shown. Better known perhaps is the one at San Gabriel. With their simplicity, their fine proportions, and graceful outline, they epitomize the charm of the California mission.

after many attempts evolved a rough and ready method. The neophytes kneaded the clay under foot until the mixture reached the proper consistency, and then molded it around their legs. Later on the curved tiles were made by splitting in half cylinders of hard burnt clay.

It took the magic of Gregorian chants, the padres discovered, to rouse the reluctant Indians to accomplishing these various tasks.

The priests always took pains to make religious doctrine as simple as pos-

sible, so the Indians could understand it. Father Juniper, for instance, used to illustrate his explanation of the Trinity by arranging his blanket in three folds.

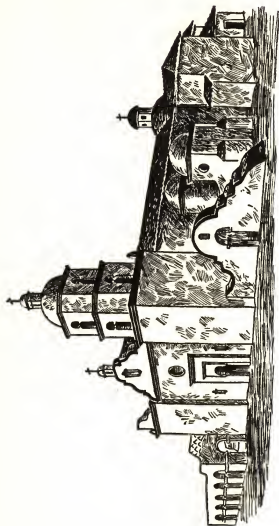
They were even more careful to make Christianity attractive. The churches were still more elaborately decorated than those of Arizona and New Mexico. Altars were adorned with silver candlesticks and gold and silver plate, and surrounded with paintings and statues brought from Mexico City, sometimes even from faraway Spain. At San Juan Capistrano there were two convex mirrors framed in gold, hanging at the altar, which in addition to serving as decoration, enabled the padres to keep track of their Indian charges even when their backs were turned as they busied themselves over the Mass. Crude native colors were used to decorate the walls and domes of the churches. All seven domes of San Juan Capistrano were garishly painted. Within the church hung a banner on one side of which was a scene from the life of the Virgin, and on the other Satan roasting in the flames of hell.

One of the loveliest missions was Santa Barbara, in the hills near the coast, about a hundred miles north of Los Angeles. It is quite undamaged by age and is the only mission still operated by the Franciscans. The walls are of stone—in some parts eight feet thick—and the roof of tiles laid with cement. The church itself is of stone, and has two bell towers with a high gable between them. From it, at right angles, extend two long wings, also of stone. In one of these wings live the fathers, just as they did in earlier times. The other, in those days, served as a prison, the neophytes living in rows of adobe huts near by. There was also, of course, the indispensable high-walled garden full of different kinds of fruit trees; a number of fountains; a pool; and a long reservoir in front of the church. Water was carried to the reservoir over an open stone aqueduct, which also brought water to the mill, the bath house, the tannery, and finally to the cultivated land, where irrigating canals distributed it far and wide.

In the cemetery adjoining the church the Indians were buried, while the padres themselves were laid to rest in vaults beneath the church floor.

Life inside the mission was minutely regulated. Early in the morning, long before sunrise, the bell summoned everyone to prayer. At the second ringing of the bell, the neophytes brought their baskets for a portion of barley gruel. At sunrise the bell rang a third time, and the Indians went to work in the fields, until the bell called them back to a midday meal of vegetables and stewed meat. At two they were back at their labors. During the afternoon a donkey was sent out to the fields carrying jars of sugared water and vinegar. At five o'clock the Indians plodded home from all corners of the mission lands, attended vespers, ate a light supper, and went to sleep. The unmarried men were locked in their dormitories and the young women in theirs, the women guarded night and day by matrons.

Though the fathers perhaps didn't exactly encourage the Indians to think



SAN LUIS REY

Known as "The Kingly Mission," San Luis Rey—named after King Louis IX of France—was the greatest and richest in Alta California. A corridor of two hundred and fifty arches gives some indication of the extent of the buildings which surrounded the vast patio, center of the social life of the mission, with its thousands of neophytes. Particularly impressive is the façade of the great church, flanked by towers and crowned by a pedimented gable.



for themselves, they kept them fairly happy, especially in the first part of the mission era, and taught them to do remarkable things. They made all their own clothes, and tools, cooked all the food, and carried on all the different kinds of work in the fields. They carved the woodwork for the churches, the lintels and doorposts, they painted the frescoes, and even learned to play and sing during the Mass. Those making up the orchestra played the violin, flute, drum, and cymbal, and pretended to read the music out of huge leather-covered, iron-clasped hymnbooks, on whose vellum leaves the notes of the different parts were painted in different colors—red, blue, and black. The padre directed with a long pole like a billiard cue; the Indians played as hard as they could and sang at the tops of their voices, all convinced that they were splendid musicians.

In contrast to the mission buildings, designed to house so many complex activities, the homes of the colonists, from one-room adobe huts to extensive one-story ranches built around a patio, were extremely simple.

In the more primitive houses the ground served as floor, and over the doorway, in guise of a door, hung a rawhide curtain. The only heat might come from a pan of glowing coals in the middle of the floor—the easiest way to get warm in the morning was to take a horse from the corral and go for a gallop. The fireplace for cooking was often in a separate hut, along with pottery, ironware, and a hand mill for grinding flour.

A slightly more elaborate house would be plastered on the inside and whitewashed on the outside, with a floor of boards, and wooden doors. The bedroom might be marked off by a partition; sometimes the house would expand into two or three rooms. In that sunny climate all such houses were comfortable; there are Americans living in some of them today.

The rancho of a more well-to-do landowner was built in the form of a hollow square whose inner court was gay with flowers and splashing fountains. Around the court was a gallery giving into large low-ceilinged rooms. One entered the house through a large hallway, serving as living room.

In *Death Comes for the Archbishop*, Willa Cather gives a picture of a somewhat more pretentious Southwestern rancho.

"The rancho was like a little town with all its stables, corrals, and stake fences. The Casa Grande (big house) was long and low, with glass windows and bright blue doors, a portale running its full length supported by blue posts. Under this portale the adobe wall was hung with bridles, saddles, great boots and spurs, guns and saddle blankets, strings of red peppers, fox skins, and the skins of two great rattlesnakes."

## FURNITURE

In the one-room abode hut of a poor Spanish settler, the only furniture might consist of a couple of chairs plaited with rawhide thongs; a rawhide stretcher for a bed, and a wooden bench along the wall.

Equally Spartan was the furniture of the padres. Father Juniper's cell at Carmel Mission had only a chair and table, a bed of boards and a blanket. Father Kino used to sleep on a couple of calfskins, with two Indian blankets for covering and a packsaddle for a pillow. The rooms for the guests and the refectory were, of course, hardly so simply furnished as this, and later on some of the priests took to more luxurious living.



A SPANISH TABLE

Like the Spaniard himself, the few articles of furniture he liked to have about him were uncompromising and dignified. They anticipated modern "functionalism" by not pretending to be other than they were. The legs of a table supporting a heavy chest, for example, would be frankly reinforced by a wrought-iron brace, which, with an innate sense of taste, the craftsman could hardly help making slender and graceful. In the beautiful gilt-nail decorations on the chest, the Moorish influence is revealed.

In the whitewashed house that boasted a board floor, as one might expect, a little more attention was paid to comfort and decoration than in the one-room hut. Here the visitor might find a crucifix; a looking glass; an image of the Madonna; colored prints of the saints. And for utensils and furnishings, a few trays, some coarse crockery, and a blanket or two.

The larger haciendas, as time went on, came to be furnished as luxuriously as houses in old Spain. They boasted glass windows and heavy brocade curtains; carpeted floors; high beds with feather mattresses; white spreads and lace-trimmed pillow cases; long mirrors and portraits in gilt frames; imposing bureaus and tables inlaid with mother-of-pearl from Mexico; Peru, Spain and even China; chairs and sofas upholstered in velvet, and candelabra with glittering prisms. The long dining tables had linen cloths, silver candlesticks,

bowls and plates of old Spanish silver, and heavy hammered-silver spoons and forks.

Except in the homes of the wealthy *rancheros*, the kitchen was the place for meals. Some people sat on chairs and used clay dishes and horn spoons and forks, but the poorest would sit on the ground and would take up the meat and beans in their fingers—along with a piece of *tortilla*.

For drinking, the mission Indians had learned to make oxhorn cups. The horn was soaked in water until it was soft and then shaped over a piece of wood; a design was engraved on it with a nail.

In New Mexico, bread was baked in outside ovens. When the oven was hot the coals were raked out and the well-raised bread in pans pushed way in by means of a long-handled wooden shovel. Then the oven opening was covered with a sheep pelt. The baked bread was kept dry and fresh in earthen bowls. Sometimes coins were kept in these bowls and later buried in the adobe of floors and walls, bowl and all, so that hunting for hidden treasure became a favorite pastime with later inhabitants.

## CLOTHES

The costumes of the Spanish colonists were really the costumes of Old Spain, with a few changes, and they persisted in America long after they had been modified in the motherland. When Coronado went up from the Pacific coast to discover the seven cities of Cibola, his knights were clad in coats of mail shining like silver, steel corselets, and helmets of iron or bull's hide. Their horses were armored and the harness was silver mounted. The infantry carried crossbows and arquebuses and sometimes swords and shields. The expedition was accompanied by hundreds of Indians, their bodies and faces painted in black, ocher, and vermilion, with green, yellow, and crimson parrot plumes on their heads.

Don Luis de Velasco, one of Onate's lieutenants in the 1595 expedition to New Mexico, took this extensive wardrobe along with him to the arid New Mexican wastes: one suit of "blue Italian velvet trimmed with wide fold passementerie, consisting of doublet, breeches, and green silk stockings with blue garters and points of gold lace," a suit of rose satin, one of straw-colored satin, another of purple Castilian cloth, another of chestnut-colored cloth and a sixth—the daintiest one—of Chinese flowered silk. He had two doublets of Castilian dressed kid and one of Rouen linen, forty pairs of boots, shoes and gaiters, and three hats. One of these, a black one, was trimmed around the crown with a silver cord, black, purple and white feathers, and a band of gold and silver passementerie.

He also took along four saddles "of blue flowered Spanish cloth bound with Cordovan leather," three suits of armor, a silver-handled lance with gold and purple tassels, a sword and gilded dagger with belts stitched in purple and yellow silk, a broadsword, two shields, a raincoat and six linen handker-

chiefs, a bedstead and two mattresses with coverlet, sheets, pillows, and pillow cases and a canvas mattress bag bound with leather. Not to mention servants, thirty horses and mules, and a silken banner.



A SPANISH SOLDIER

With the exception of a few knights on horseback, whom the Indians took for dragons, the adventurers reaching these shores in galleons never wore the traditional full suit of armor. Improvement in the firing power of the musket rendered it unnecessary. Conquistadors were satisfied with the half-armored suit which consisted of breast and backplates strapped together at the waist. The head was protected by a morion with a laminated neck guard. Padded breeches afforded extra protection.

The explorers and missionaries who settled Upper California in the latter part of the eighteenth century were accompanied by soldiers wearing sleeveless jackets heavily quilted and covered with six or seven thicknesses of deer-skin to protect them against the arrows of the Indians. On the left arm they carried a shield made of two thicknesses of rawhide.

Because the cactus and brush—called chaparral—scratched their knees as they rode along they got into the habit of hanging a hide on the pommel of the saddle. Then they found it was easier to use two hides tied together, one hanging down on each side, draped around their legs and thighs. These are the ancestors of the chaps which are worn in the West today.

The Franciscan monks, wearing loose brown or gray robes with a long tasseled girdle, and sandals on their feet, afforded a marked contrast to the rancheros, who loved beautiful clothes and kept up the tradition even in remote California.

The ranchero was a dandy. His suit was of black, brown, green, or plum-colored broadcloth or velvet, with round gold or silver buttons down the sides of his gilt-laced pantaloons, which on the outside were slashed from the knee down, showing the deerskin leggings. Around the waist was a brilliant red silk sash. And he liked to sport a jaunty short jacket of silk or figured material, often trimmed with scarlet. On horseback, a gorgeously trimmed and embroidered broadcloth serape completed his costume.

This elegant individual wore his hair long. Parted in the middle, it hung down his back, somewhat after the fashion of the Chinese, in three braids, which were tied with ribbon. (One of the household tasks of milady was to braid the hair of her lord and master.) A black silk handkerchief was tied around his head and over it was worn the broad-brimmed sombrero, embroidered in gold or silver, with a gold silk cord and tassel dangling over the side. A slip cord hung under the chin. One of the most characteristic parts of the costume was the embroidered and stamped leather boot. Some of the California ladies who had been to Mexico City had learned to weave garters on tiny looms like those for weaving beads, and every *caballero* sported garters of knots of gold or silver with figures of men and hearts on them, the gift of his sweetheart. Shoes were of buckskin and were often embroidered too.

Spanish or Mexican ladies in California wore short-sleeved, loose-waisted gowns of silk, crepe or calico, with an embroidered hem, satin or kid shoes with silver or metal buckles; black or red silk stockings; brightly colored sashes or belts, and necklaces or earrings. Maidens wore their hair loose or in long braids, and married women wore it high on the crown of the head, held in place by a tall tortoise-shell comb. On ordinary days every woman wore a *rebozo*, or shawl, over her head. A lady's *rebozo* would be of silk, a peon woman's of cotton or linen. For formal wear, the señoras wore the graceful mantilla, or lace head covering, whose ends were crossed over the breast and drawn tight round the hips.

All the ranchers' finery was carefully stored in chests and handed down from father to son and from mother to daughter, sometimes for as many as three generations. So proud were they of their clothes that, as Dana tells us in *Two Years before the Mast*, one might see a man "with a fine figure and courteous manners, dressed in broadcloth and velvet, with a noble horse com-

pletely covered with trappings, without a *real* in his pockets and absolutely suffering for something to eat."

Every male Indian neophyte was given a loin cloth and a coarse cotton smock, or sacking blouse. The women were given enough of this material for a petticoat. Each Indian was provided with one blanket a year, but if it got torn or worn out he could have another. The serape, which is simply a blanket with a slit in the middle for the head, was and still is a common



HEADGEAR

The sombrero, so called because it *shaded* (Spanish *sombra*, meaning "shade"), its wearer from the sun, was also an object of adornment. Rich with gold and silver embroidery, it was sometimes worth a small fortune.

Spanish-American article of clothing for men, and its bright colors enliven many a rural gathering in Spanish America today. The serapes served also as a coat to keep out the cold and the rain, and as a coverlet at night.

The trappings of the *ranchero's* horse were a very important part of his costume. The saddle was a fearful and wonderful affair, its "elaborate lines comparable only to those spoken of in naval architecture." First there was a wooden frame, open down the middle so as not to gall the horse, covered with tightly stretched rawhide. It had a high pommel and a big clumsy wooden stirrup. The stamped leather and silver-encrusted fittings were attached with thongs. The saddle with its gear weighed fifty or sixty pounds, and twice that when wet with rain. Particularly heavy were the stirrups, the saddle tree with its iron rings, the skins hanging from the pommel, and the pistols in the holsters. The spurs alone weighed from four to six pounds.

There was a reason for the sturdiness of a saddle and fittings. A bucking

horse couldn't dislodge it and its height kept him from rolling over. The high pommel was the anchorage for one end of the riata or lasso and had to hold the full weight of a recalcitrant steer or mustang. A trained pony was able to pull up short at a full gallop the minute the rope caught hold of its prize, and the strain on the pommel must have been terrific. Sometimes the rancheros would clap these saddles onto unbroken horses and ride them furiously, heedless of their kickings and pitchings.

The bridle was of braided rawhide, the reins often of horsehair woven in sections and joined with silver links. And on dress occasions bridle, reins and latigo were all of silver, cold drawn or made from Mexican dollars, with a silver star on the forehead, silver nosepiece, and silver breastplate in the shape of a heart.

The bit was ornamented with inlaid and wrought silver. There was a high plate in the horse's mouth supported by a ring which went round the lower jaw. Two long shanks ran down from the bit on either side, and when the reins were pulled in, these shanks lifted up the plate which pried the horse's mouth open, so that the ring would press back against the lower jaw. With this cruel bit, it was possible to break a horse's jaw.

The spurs had a shaft sometimes as long as ten inches, while the rowels might be six inches in diameter. They were inlaid with gold and silver and had little plates and chains to make them jingle. The mounted ranchero did not wear spurs on gala occasions because that would have implied lack of confidence in the mettle of his favorite steed.

The halter rope was of twisted hair and so was the cinch. The riata was of braided rawhide. At the saddle horn hung a little pair of bags containing flasks, clean handkerchiefs, and miscellaneous gifts for friends. The hind quarters of the horse were protected against scratches by a leather covering decorated with jingling metal hangings.

## FOOD

Many missions became famous for the excellence of a particular product: San Diego for its big olives, San Luis Obispo for its pomegranates and oranges, San Buenaventura for its figs and dates, San Antonio for its bread and cakes, and San Fernando for its wine.

Brandy was made from apples or pears. To keep the Indians from acquiring a taste for it the padres used to give them kegs filled with water, burnt sugar, and chili, but the disappointed Indians said "there was no happiness in it."

After Mass the padres broke their fast with chocolate and toast or biscuit. About eleven in the morning they drank a glass of brandy with a piece of cake or cheese, and at twelve they had lunch of soup, beef, mutton, or ham, and beans, lentils, peas, or greens, with fresh or dried fruit, sweetmeats, or

cheese washed down with plenty of good red wine. For supper they had some light meat such as roast pigeon, and chocolate.

The neophytes seem to have been nourished almost entirely on *atole*, *pozole*, and *pinole*. *Atole* was corn boiled with lime, cleaned, ground into a paste and made into gruel. *Pozole* was a stew of corn, pigs' feet, pumpkin and peppers. *Pinole* was thick roast corn flour taken in sweetened water. Then there were various combinations of these with each other, such as *atole de pinole*, and *champurrado*, which was *atole* with chocolate, and which when combined with meat or bread made a perfectly good meal. For sweetening, coarse brown sugar molded into small cakes in wooden molds, was used. It was called *panocha*.

In the haciendas breakfast was served at dawn. It might consist of milk, chocolate or coffee, bread, biscuit, or finely sifted *pinole*, or *tortillas*. The latter were large, round wafers, thin and flat, some made of wheat and flour with a little fat, others of a kind of corn bread. In California they were baked over a slow fire on a flat earthen pan. Between eight and nine the rancheros sat down to a repast of roast beef or veal, fried beans, and tea or coffee. At lunch time they began with beef or mutton broth with rice and cabbage boiled in it. The meat course usually consisted of the meat and vegetables from which the broth had been made, rendered more appetizing by a sauce of peppers, tomatoes, onions, parsley, or garlic. Then there were fried beans, tortillas, or sweetmeats. The ladies took tea or coffee in the afternoon, the gentlemen, liqueurs. Supper consisted of a stew or roast and beans.

Poor people lived on *tortillas* and stewed beans and beef, which was often roasted in strips before an open fire, or thrown on the coals and eaten half raw.

The names alone of the different kinds of food of the Spanish in California provide quite a mouthful in themselves: *atole*, *pozole*, *pinola*, *champurrado*, *panocha*, *frijoles*, *olla podrida*, *tortilla*, *garganzos*, *quelito*, *miscoyote*, *totopo*, *sancocho*, *frizada*, *bunuelos*.

## AGRICULTURE

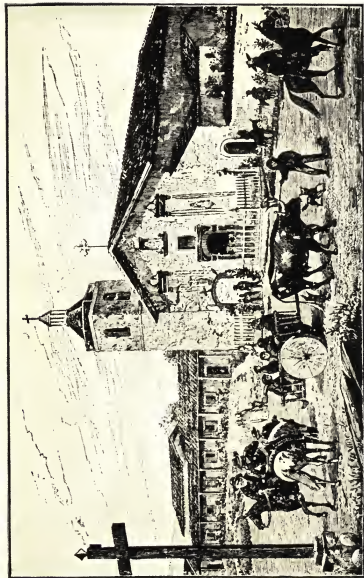
The care of the cattle and the riding it involved, was the most important feature of ranch life, which did not differ essentially from life on the range as our cowboys know it today. Then as now, the cattle had to be rounded up, and herded into a corral made of posts set close together. Then they would be driven around the corral at top speed, while men stood in the middle to lasso the ones they wanted.

First the bulls for fighting were cut out of the whirling circle of cattle and put in a separate place. Then the ones to be branded were forced through a gate, one at a time, into an adjoining corral. Those destined to be eaten were lassoed and thrown, slaughtered and skinned, and the carcasses taken to large bake ovens.

Sometimes so many were needed that it was necessary to have a wholesale







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from "This Was California," by Albert S. Penoyer*

#### THE MISSION OF SANTA CLARA

When the forty-niners reached California, life was going on much as it had for centuries. Here, before the mission, leisurely oxen draw the creaking, solid-wheeled carreta, while rancheros in embroidered leggings exchange amenities. Yet this picture was made as late as 1851. It depicts the Mission of Santa Clara transformed by the Jesuits into a college at that time.

slaughter in the fields. Riders would gallop up to the cattle and knife them in the nape of the neck. Men following on foot then stripped off the hides, and cut up the meat, while the women collected the fat in leather hampers. Afterward the fields would be littered with gory skulls, ribs and bones.

Milking a cow apparently was no small matter. If we are to believe the story of a contemporary, it took sometimes three women to do it. One held the head of the cow. The second held the riata which had been bound round the cow's hind legs, and fought off the thirsty calf. Finally, a third milked with one hand, holding in the other one a bowl, tumbler, or even a teacup, as milk pails were unknown.

Some of the missions had up to two hundred thousand head of cattle. Hides were worth from a dollar and a half to two dollars and were so often used in paying debts that they gradually came to serve as currency.

The tallow was exported in the guts, bladders, or hides of the slaughtered cattle. Hides, for instance, were folded when green, and sewn with an awl, after being aired, and the tallow was poured in through an opening left in the neck. The filled hides were called *botas* after the rancheros' leggings, and frequently figure as such on the bills of lading of American skippers. The captains and supercargoes were interested in fat and tallow, or grease, as they called it, to the exclusion of everything else, so the rancheros mockingly dubbed them "greasers." Eventually the name was applied by the skippers to the rancheros in their turn. Another version of the origin of this name is that when the Californian ranchers saw the first covered wagons arrive, spewing forth dirty-faced humans with greasy hands, who pulled out greasy mattresses and laid them on the ground, they nicknamed the emigrants greasers.

When the Yankees, who had been using iron and steel plows for years, came to California at the time of the gold rush, they were amazed to find the Spanish Americans contentedly plowing with a clumsy wooden plow. A yoke of oxen, guided by an Indian, would drag along the earth the crooked limb of a tree tipped with a piece of flat iron, a smaller tree serving as pole.

Seed was sown by hand and harrowing was done with the branches of a tree. At harvest time the ripened grain was cut with sickles, and men, women and children brought in the grain on their backs. Then, as in the days of antiquity, the grain was spread out over the floor of the corral and horses were driven around over it. (To keep the floor smooth, without cracks, it was spread with a mixture of cow dung and water.) After being threshed in this way the grain was tossed up into the wind from wooden bowls so that the chaff would blow away. The mill for grinding consisted simply of an upper and nether stone, the top one being turned by a mule.

The ground was so fertile that these primitive methods yielded excellent results. At San José, according to mission records, a hundred and twenty bushels of wheat sown on unplowed ground, and simply scratched in with branches, gave seven thousand bushels of grain at harvest time.

At the wine-making season, a raised platform was built and covered with well-cured clean hides, on which were put the ripe grapes. Then a few carefully washed Indians whose hair was tied up in handkerchiefs and whose hands were tied in cloth to keep the sweat from dripping down, would tread out the juice, steadying themselves by means of sticks. Leather bags, tied to the sides of the platform, caught the juice as it poured out, and from these it was emptied into large tubs, where it stayed until fermentation took place.

Irrigation was as important in Spanish American settlements as it is in California today. In Arizona and New Mexico, in fact, it was even more important, for one had to be sure of a water supply before one could farm, or even exist. So the first settlements were made near rivers and every ranch had its well. The water of tiny streams was carefully brought to the cultivated areas by means of ditches, along which cottonwood trees were planted. In New Mexican communities there were three ditch overseers who allotted the water to the different farmers in proportion to the number of their acres. Sometimes a family stayed up all night irrigating their land to get the full benefit of water that was coming through only for a limited time.

The overseer had also to settle arguments which were frequent in time of drought and sometimes resulted in bloodshed and death. When the farmer suddenly noticed the water getting low he followed his tributary ditch back to the main stem and there sometimes found that a neighbor had turned the water off into his own ditch. The case might be carried into court and might drag along for months. Meanwhile, still another farmer got the benefit of the water.

Every farmer had to contribute Indians to repair and clean the main ditch, and each Indian had to be furnished with his lunch so that he would have no excuse to quit work. Each citizen was required to have a good stop gate, with no leaks in it, at the point where he stopped the main ditch. If the main ditch gave way everyone was supposed to hasten to the rescue.

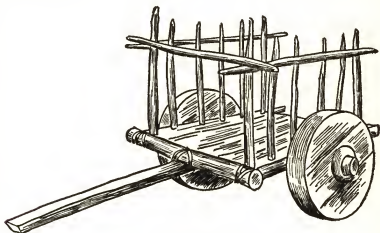
## TRANSPORTATION

In the Southwest horse and rider were one. The newborn child was taken on horseback to the mission to be baptized. By the age of ten he was an expert rider, and it is no exaggeration to say that he spent the rest of his life on horseback. A man took more pride in his ability to ride than in any other accomplishment.

He was equally proud of his horse, descended from the Arab horses of the Moors, by way of Spain. It was trained to obey a wave of the hand or a tap of the latigo, even if ordered to jump off a cliff. And it was capable of covering great distances: a hundred miles from sunrise to sunset was not unusual. On a long journey, the ranchero would pick up a horse, gallop it till it collapsed, leave it, pick up another, and continue his ride. In this way he could cover a hundred and forty miles in a day. Even the women preferred to ride, as the cumbersome ox carts were by no means comfortable. A lady

would ride in front of her cavalier, shaded from the sun by the brim of his sombrero.

The only other form of transportation was the *carreta* or oxcart, whose frame was covered with rawhide and whose two wheels were simply crosscuts of a tree. The oxen were yoked by lashing their foreheads to sticks four feet long. A driver rode alongside and managed the oxen, who were often driven at a gallop. Roads worthy of the name simply didn't exist. The cart would rattle, the dust would rise, and the groaning and creaking of the wheels could be heard for miles.



A CARRETA

This is what a *carreta*, or oxcart, usually looked like. On feast days, it might be covered with a canopy improvised from a bedspread, lace curtains, a cape, or a *rebozo*. Long fringes hung down the side almost as far as the axle.

Some of the heads of missions felt that they should travel in a manner becoming the rulers of a vast territory. Padre Luis had a carriage with a narrow body just wide enough for one person, its seat stuffed with wool to make up for the lack of springs. It was drawn in style by four black mules, whose rawhide harness was decorated with gold and silver and with melodiously jingling bells. The coachman was dressed in a gorgeous costume. On each mule sat a little Indian boy. In front rode a man on a horse, guiding the mules with his *riata*, and behind came the neophytes, two by two, plodding in the dust.

No description of transportation among the Spanish Americans would be complete without a word about another animal which is as indispensable to the rural Mexican as the horse was to the *caballero*. No matter how poor, the Spanish-speaking inhabitant of New Mexico and Arizona was inevitably the proud possessor of a little donkey or burro. When he was in town he would

leave the burro standing in the street with the reins over his head. When he came back there might be twenty others there all looking exactly the same. But he never failed to recognize his own faithful friend and companion.



BURROS

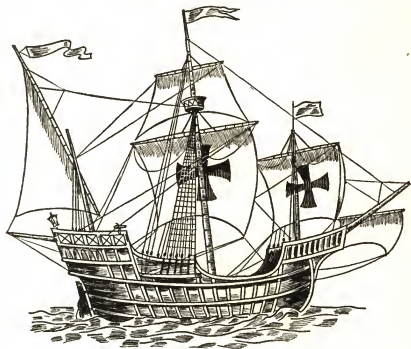
The Spanish-American either rides his burro or uses it for carrying wood, barrels of water, and other commodities, loaded on the wooden packsaddle and tied with rawhide or rope of horsehair.

Before leaving the subject of travel, a tribute should be paid to Spanish American hospitality, which reached as high a point in California as it ever reached in the old South. No matter at what hour of the day or night the traveler arrived at the Spanish home, there were Indian servants to feed him, look after him and his horse, and show him to a good bed. He could stay as long as he liked. A thoughtful Spanish host would leave in his bedroom a little pile of silver covered with a cloth, from which the guest could supply his needs, either during the visit or when he left. When the time came to go he was supplied with a horse, saddle and bridle, and if he wore out his horse on the way, he simply picked up another, transferred the equipment, and left the first one in the road. If, when night came, he hadn't reached human habitation, he could cut a cow or a steer out of the nearest herd, slaughter it, and eat as much of it as he wanted. The only thing he was expected to do was to hang the hide where the owner could find it.

Rancheros and priests were always glad to have a guest at their table, and it was possible to go from one mission to another all up and down the coast of California without having to pay anything. The poor people were as hospitable as the rich, and if the hut at which you stopped boasted of only one bed, the host would give it to you and sleep on hides.

One reason for such lavish generosity was that there were so many thou-

sands of heads of horses and cattle. The descendants of the horses brought by the conquistadors had run wild over the plains and multiplied. There were so many that they ate up the pasture of the cattle, and as the cattle were more valuable, on account of the hides and tallow, horses actually had to be destroyed. Sometimes great herds of them were stampeded over cliffs.



THE SANTA MARIA

No more nor less than a typical Flanders trader taken off her regular route, the *Santa Maria* had about the displacement of a small Banks fishing schooner of today. She carried square sails on the fore and main masts, and a lateen sail on the mizzen; sail area could be increased by lacing boots to the lower edge. There was a single tower at the bow, and a double one at the stern, where the Admiral's quarters were. The crew slept on deck and cooked their meals on a box of small stones under the edge of the forecastle.

The ships which the Spanish used really belong more to the life of Spain than to the life of America, but it is interesting to note that it was a Spaniard who constructed the first ship built in America. In 1526, Lucas Vasquez de Ayllon found himself stranded at the mouth of the Cape Fear River on the Carolina coast. His ship had been lost in making port with its cargo. Then and there he built an open one-masted boat that had both oars and a sail, and when a few months later he died of fever his men set out for home with his

body in the open boat. But the boat sank, in the words of a Spanish historian of the time, in "the sepulchre of the ocean sea where have been, and shall be put, other captains and governors."

Now hearken to what happened to one-eyed, red-bearded, Panfilo de Narvaez who plunged into the tangles of the Florida jungle with three hundred men and forty armored knights on armored horses. When he finally got back to the coast after almost starving in the wilds he found that his fleet had sailed away. So his men slaughtered and ate their horses one after another and then went to work to make a fleet of boats from the skins. They had neither tools nor iron, nor forge, nor resin, nor rigging. Iron for nails, saws and axes, they took from stirrups and spurs, and they improvised bellows from deerskins and wooden tubes. For resin they used pitchpine, and palmettos for tow, while ropes and rigging could be made both from palmetto

THE SIGNATURE OF NARVAEZ

Narvaez was one of those who wrote his name across the map of what is now the United States. Shortly after the ill-fated venture of Ponce de Leon (Lion's skin) in Florida in 1521, he landed near Tampa Bay with six hundred followers and got as far as the Mississippi. One of the survivors of his expedition, Cabeza de Vaca (Cow's head), lived as a slave among the Indians for eight years, crossed the whole of Texas, and wandered down to Mexico.

fiber and horsehair. Sails were made from shirts and oars from young saplings. They even made water containers of horses' legs cut off at the hip and tanned. By the time the last horse was killed, they found themselves with five boats twenty cubits long. Then, after naming the harbor Bay of Horses, they sailed away in the direction of Mexico, but at the mouth of the Mississippi the river's flow dispersed the little fleet. Narvaez was driven out to sea and never heard from again, while Cabeza de Vaca's boat and others were wrecked.

Later, when Hernando de Soto was buried in the Mississippi, his army needed ships to descend the river. They cut down trees and set up a forge;



made spikes into iron chains; and made oakum from a plant like hemp. They made pails of woven hemp and of skin, anchors from stirrups and ropes, and cables from the bark of the mulberry trees. It was fortunate that the high Mississippi floods floated the vessels off the ground, for the planking was so thin and the spikes, owing to scarcity of iron, so short, that the ships would hardly have stood the strain of being launched.

The conquistadors were not the only Spaniards who could conjure up seagoing vessels out of horses' hides or trees. A worthy descendant of theirs was Father Ugarte, who by means of mules and oxen transported timbers a distance of thirty miles, over the crest of a mountain range, and in four months' time built a ship which was larger, stronger, and had more beautiful proportions than any that had been seen at that time along the Pacific coast. The ship was built in 1719; it later became the famous "Manila galleon," plying between California and the Philippines.

## LIFE IN THE COMMUNITY

The Spanish in our land were probably as happy as any people of whom record exists. And taking mission life at its best the Indian neophytes were not unhappy either, especially on feast days when they were allowed to join in the jollification at which the Spanish were past masters.

One of the leading sports was, of course, the bullfight, which took on a somewhat more informal character than it usually does in Spain. Men and boys would jump over the barrier into the bull ring and tease and bait the bull in all kinds of ways, twisting his tail and jumping onto his back, and even vaulting over him with poles. The bull would knock some of them down, and toss others on his horns, but usually nothing more serious happened than the participants getting scratched and bruised and the bull becoming thoroughly disgusted.

Cockfighting was popular, while another favorite game was to bury a rooster in the sand with his head sticking out, then ride past it at full speed and pull it out of the sand. If the rider fell off he was greeted with derisive yells.

The Spanish in California had a passion for dancing, and their houses were built for it. The main room or *sala* was usually as large as a barn and was furnished only with a few chairs and a wooden settee that could easily be moved out of the way. When a few people happened to be together with nothing to do, which seems to have been pretty often, the first thing they did was to get hold of a violin and a guitar, and grownups and children, big and little, were soon dancing away for dear life.

At formal dances and carnivals eggshells filled with shreds of gold and silver paper, cologne, or colored water, were distributed, and the señoritas broke them over the heads of the men they picked out for partners. Sometimes the sport became rough and dresses and faces suffered.

Little Spanish children had lots of fun. They rode wooden horses and played blindman's buff on moonlight nights and threw stones at a mark. They also played a game called *caña*, or *tangano*, which was nothing more than the modern ducks and drakes and which, incidentally, was similar to a game played by children in ancient Rome. Having duly observed that their parents bet money on the results of this game, for the Spaniards were great gamblers, the children copied them and bet their buttons. A boy who had had bad luck would be seen flapping around without a single button left on his clothes.

Californians had occasional theatrical performances, but, growing up as they did in the shadow of the cloisters, they always gave plays on sacred subjects. At the Soledad Mission a play on the Nativity was performed every Christmas Eve and was very popular. The leading player used to practice for weeks beforehand on the seashore, shouting and gesticulating madly, to the joy of little boys who peeped out at him from behind rocks and dunes.



## CHAPTER II

### THE FRENCH: The Domain of the Roi Soleil

#### INTRODUCTORY

WITH a gibe to the effect that he "much desired to see Adam's will to learn how he had partitioned the world," Francis I, King of France, in 1523, defied the papal decision to divide the western hemisphere between Spain and Portugal. Mysterious America with its supposed stores of gold and spices, with its imagined water or land routes to the Indies, seemed to offer tempting opportunities for commerce, which was beginning to monopolize the royal attention.

At the behest of Francis I, the Italian navigator Giovanni da Verrazano, of Florence, explored the coast of North America in 1524, probably from Cape Fear to Newfoundland. On the basis of this exploit France laid claim to the whole of North America.

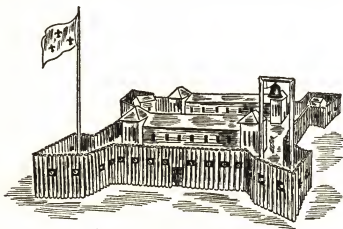
Ten years later, in the mild month of May, a Breton sailor named Jacques Cartier navigated the gulf later called the St. Lawrence, and returned to France full of enthusiasm for the climate and natural advantages of the territory on which he had planted the banner of France. But on his next trip, the explorer and the nobles who accompanied him were disappointed to find, not a kingdom "rich and wealthy in precious stones" (as had been described by two Indians that had been captured on the previous trip and taken back to France), but a wild country inhabited only by half-naked savages living in primitive huts.

None of the attempts at colonization during this period was successful. Under Henry IV, a group of wealthy merchants attempting to build up the fur trade were driven out of what is now Newfoundland by hunger and cold. Further south, a small group of Huguenots under Admiral Coligny, first at Port Royal Sound, South Carolina, and later on the St. Johns River, were driven out by hunger and the Spanish.

This was the story of France in the New World until the seventeenth century, when, with the terrible wars of religion over, her colonial prospects looked brighter. In 1605, another sailor, Samuel de Champlain, after retracing the steps of Jacques Cartier, founded the first permanent French settlement in the New World—Acadia, on the Bay of Fundy. Three years later he founded the city of Quebec.

The French settlers disliked the cold climate and rugged soil. Moreover, except for Jesuit missionaries, officials, and fur traders, many of the scant twenty-five hundred persons making up the population of the colony fifty years after the founding of Quebec, had come to America on the orders of the King. And they soon found that the feudal injustices of the old regime had not been left behind.

Under Louis XIV, however, an era of comparative prosperity set in, and the first governors sent out missionaries and traders to explore the vast wilderness to the west. It was during Frontenac's governorship that the Jesuit, Père Marquette, and the explorer and fur trader Joliet, discovered the Mississippi in 1673; and in the ensuing years La Salle, following its course



A FORT IN NEW FRANCE

To these outposts of empire the scattered settlers and their families could flee for protection. Hither the *coureur de bois* repaired with his load of skins, and here the Jesuit missionary rested after his ventures in the wilderness.

southward, took possession of the vast Mississippi basin in the name of his King. Shortly before the turn of the century, the town of Biloxi was founded on the Gulf of Mexico—the settlement, incidentally, taking its name from the Sioux word meaning “the first people.” New Orleans, destined to be the metropolis of the southern French settlements, came into existence almost two decades later.

Gradually the line of outposts of the French Empire from the St. Lawrence and the Great Lakes to the mouth of the Mississippi grew into thriving settlements. The French made friends with their former enemies, the Indians, and from fighting turned their attention to the soil.

Elsewhere too on the North American continent, the French played a conspicuous part. In New Amsterdam the Huguenots were prominent, while

French refugees from Santo Domingo settled in Norfolk and Charleston. Half the population of Norfolk spoke French, and the streets were named after prominent refugee families. In Louisville in the early part of the nineteenth century, the sons of France would foregather at the big Café Napoleon to play billiards, smoke cigars, drink whisky and talk of France's past glories.

But even in its heyday, in the middle of the eighteenth century, the whole of New France could boast of no more than eighty thousand colonists, at a time when the population of the English colonies exceeded a million. And whereas the New England settlers had always been self-sustaining, the French never raised enough crops to free themselves from imports. Although they had built up a substantial fur trade, great inroads were made in it by the English, and those Indians with whom the English were on friendly terms provided keen competition. The French could ill spare their soldiers from the battlefields of Europe, and Britain was in control of the seas. By 1763, the English had completed the conquest of Canada, and at the same time France ceded to Spain all of Louisiana west of the Mississippi. After the Louisiana territory was retroceded to France by Charles IV of Spain in 1800, Napoleon sold it to the United States, and the French flag disappeared from the North American mainland.

## HOUSES

Perhaps the most striking thing about the cities of New France was the number and prominence of the churches, seminaries, and hospices, for religion played an outstanding role in the life of the colonists. The atmosphere of Quebec in the early seventeenth century, when there were only a few rude houses and the famous Place d'Armes was a Huron camp, was half monastic and half military.

In the course of the century, as trade with the homeland flourished and prosperity increased, many houses were built of limestone taken from near-by quarries. The walls of the stone house (*maison de pierre*) were often made two feet thick to keep out the cold, and the rather drab gray stone was often whitewashed on the outside. Some of the better stone houses resembled those of France, being two stories high, with courtyards and dependencies. Sometimes they were roofed with gray slate, often with shingles.

Here and there glass was used for the windowpanes instead of squares of paper.

The first buildings in Louisiana, erected a hundred years after the French established themselves in Canada, were planned by French Canadians, and built under their direction, so that they did not differ very much from the primitive early houses of the Northern settlements. The original fort at Biloxi, indeed, was simply a wooden palisade with four bastions, armed with

fourteen cannon, and for a score of years the inhabitants lived in huts that were hardly more than cages, consisting as they did of stakes driven into the ground, with roofs of rushes. The colonists were able to keep dry, but shivered when the wind blew.

Even in later days, when the Kings of France exercised their temporal sway over a large part of what is now the United States, the typical house of a French colonist was a rude affair at best, only one story high, with three or four rooms. For the *maison de poteaux en terre* (house with posts in the earth) timbers were hewn flat on two or four sides and set upright in the



A DOVECOTE

The only part of America where one can find the true French *pigeonnier* or dovecote, is Louisiana. Octagonal, of whitewashed brick, it flanked the old-fashioned house of the planters. As a home for pigeons it was unusually elaborate, and the planter's little boy thought himself lucky if he was allowed to sleep there.

ground, fastened together only at the top. The space between the timbers was filled with clay and grass, or clay and rubble stone. The hip roof, of massive hewn trusses, was at first made very steep so as to shed snow and water from the thatching.

This type of house, which was cheap to build, was most often found in the Mississippi Valley, and was probably adapted from those in the early Spanish settlements on the gulf coast. For it was unknown in France, and in Canada, especially along the St. Lawrence, the colonists preferred to build stone

houses. Another feature which distinguished the timber-hewn house from the French style in the northern region was the *galerie* or porch, running around two, three, or all four sides of the house, derived from the architecture popular in the West Indies and in Louisiana.

A more advanced type was the heavy frame house which, with its ten-inch closely-spaced timbers resting upon a foundation of limestone, was much more durable but also required a good deal of skill to build. Such a house was called *maison de poteaux sur solle* (house with posts on a sill).



THE HOUSE OF A PLANTER

Typical of early plantations in the bayou country of Louisiana is this planter's house, with its French-style casement windows, its sweeping verandas on all sides of the house, the latter probably borrowed from the West Indies. There is even an exterior staircase. In sultry weather the family would spend most of its time on the veranda.

By 1720 Mobile, then the most important settlement in the Louisiana colony, boasted enough frame houses to make three or four streets.

At the same time, settlers further west were hacking a square out of the forest, thirty leagues from the mouth of the Mississippi. This was to become the famous Vieux Carré, the best known quarter of New Orleans. The square was laid out in straight streets bisecting each other at right angles—New Orleans was one of the first cities in the New World to have such a regular pattern. Apparently it was some time before many houses were put up, for when the Chevalier des Grioux arrived at the capital with Manon Lescaut, he declared: "We were surprised to find that what we had been told was a splendid city, was nothing but a collection of miserable cabins."

The mouth of the Mississippi was an unhealthy spot full of malaria, and the three engineers who came over from France to plot out the city paid for it with their lives. For three months every year, the Vieux Carré was flooded. But before long, levees and dikes were thrown up, and a drainage canal dug

between the city and Lake Pontchartrain. By 1728 the Creoles were becoming proud of their city, and singing that "it would soon be comparable to Paris." The resemblance extended as far as street names, such as Chartres, Condé, Royale, Bourbon, Dauphine, some of which remain to this day.

As time went on, too, life on the big indigo and sugar plantations became more settled and agreeable. Along the banks of the Mississippi were to be seen unpretentious but attractive houses, characterized by gray shingle roofs, a plenitude of large windows and doors, and airy porches running all around the outside. The nearer one got to the capital, the more imposing they became, and the more they followed the style of the manors of France. In the city itself, by the middle of the eighteenth century, there were over two score of fine houses like that of the Chevalier de Pradel, which had a long and impressive flight of steps in front, while within were cool salons garnished with long mirrors and pier glasses, tapestries, and graceful furniture from the motherland. Thus did these more prosperous colonists ape the noblemen of Versailles.



WROUGHT IRON

Balconies, a necessity in Southern climes, became objects of beauty and lent charm to the stately old houses of New Orleans and Charleston, and this charm was enhanced, rather than destroyed, by a mingling of Spanish Renaissance, French Gothic, and rococo motifs. Here is an example of wrought-iron work from the balcony of the historic "Cabildo"—seat of the Spanish colonial government—in New Orleans' Vieux Carré. Some wrought iron may have been made by Negro craftsmen, but much, since there is little iron ore in these parts, must have been imported from Southern Spain.

## FURNITURE

Ships being small and unstable, and the loading and unloading of furniture being a complicated matter, the furniture and equipment of the first settlers in Canada and Louisiana were reduced to a minimum. Tales are told of barrels breaking loose on deck and charging about like mad bulls, smashing whatever came their way, including some of the less agile passengers. For years ships couldn't come up to New Orleans and precious articles were lost overboard while being transferred to small boats. Sometimes the captain, afraid of running aground, would have all the freight thrown into the sea. Fortunate it was that the settlers in both North and South became handy with the hatchet, and made for themselves rough wooden benches, beds, stools



and chairs, which, with the chests in which their equipment had come, provided them with furniture enough for daily needs.

Toward the end of the seventeenth century when houses were becoming more substantial, larger ships were crossing the water, and it was possible for the wealthy Southern colonists to order furniture from France. The Marquis de Vaudreuil, Governor General of New France, was one of those who did not stint himself. His inventory mentions beds of white damask embroidered with golden flowers, decorated with silk-embroidered stripes of red velvet;



A MALLARD DRESSER

In the days of Napoleon III every New Orleans bride had to have a bedroom suite by Prudent Mallard. As this piece shows, he liked the elaborate and ornate. All New Orleans furniture was massive, on a scale with the spacious high-ceilinged rooms appropriate to the tropical climate of the Mississippi Delta.

cherry wood chairs upholstered in tapestry or *moccade*; fine Bergamot and Flanders tapestries; heavy serge, calico and chintz curtains, marble-topped cherry wood or pine tables, Turkish rugs, and Venetian lace. Portraits of the King and of members of the Vaudreuil family in robes of state are included; not to mention pictures of mythological subjects, and books. Among the latter was a copy of Robinson Crusoe.

The dining room was furnished with a complete service of Marseilles china; an assortment of crystal goblets and glasses; and massive silver soup bowls, coffee pots, sugar bowls, pepper and salt shakers. There were hundreds of dozens of embroidered and Venetian lace napkins. Huge chests were brimful of fine sheets and pillowcases. There were damask curtains of every

size and quality, and mixed up with all the rest were milord's batiste shirts and point lace cravats.

This was a far cry from the rustic simplicity of the homes in the Northern woods. By the nineteenth century, however, the typical French Canadian home had become clean and comfortable if not luxurious. It was a pleasant frame house, with rooms whose ceilings were traversed by heavy beams. From out-of-doors you entered the main room, which served both as kitchen and bedroom. The life of the family revolved about the huge open fireplace



AN ORNATE FAN

In harmony with the elaborate, massive furniture of the later French period in the bayou country, this large fan hung from the dining-room ceiling. Waved languidly to and fro by means of a cord, it kept the air in motion.

with its hearth of flat stones, garnished with chimney hooks, firedogs, scuttle, huge pots and an impressive array of pans and casseroles, dripping pans, pie dishes, and gridirons. On the mantel were flatirons, candlesticks, and lanterns. A mold for making tallow candles was indispensable, although some people used cast-iron lamps which burned oil obtained from the carcass of the sea lion. Matches were unknown. To start the fire, dried maple knots were used, lighted with a briquet or a flint.

In the back of the room was the common bed of the master and mistress

of the house, a monument covered with a canopy four or five feet high, with a straw mattress or feather bed, linen sheets, pillowcase and bolster covered with red calico, and a counterpane on top of that. These big beds were handed down from father to son, and served many a maiden as dowry. A few wooden chairs with straw-covered seats, a spinning wheel with its reel, a hand loom, a table, a bench for pails, and a couple of chests garishly painted in red and blue, completed the furnishings. The chest of pine, oak, or walnut, was to be found in every home, and an old picture of the period shows us some visitors seated on a chest and singing folk songs to the tune of a violin.

## CLOTHES

The nobles, military, men of God, townsfolk, and farmers who crossed the Atlantic, wore in the New World what they had been accustomed to wear in France. Even in the virgin forests, the rules of his order prevented the missionary from laying aside his cassock, and the explorer often made a point of appearing before the astonished Indians in the full splendor of his military accoutrements. But the man who is most typical of the life of New France in America, the man who was to build up the wealth of the colony—the famous *coureur de bois*—had to contrive his own costume.

The phrase means, literally, "woods-runner." It is often assumed that the *coureur de bois* was a trapper; in reality he was a trader, buying from the Indians the furs they had trapped themselves.

When they went into the back country the traders were often accompanied by Jesuit missionaries, known as "Black Robes" by the Indians. Some of them, like the good Père Marquette, carried large deerskin pockets or sacks, in which they kept rosary, crucifix, breviary, ink, paper and compass. Their rivals in winning the Indians to Christianity, were the Recollets, a branch of the Franciscans, who wore a rough, soot-colored homespun robe, culminating in the famous pyramidal hood, known as the *capuce*, which gave its name to the Order of the Capucins. Their naked feet were thrust into sandals. In their frequent differences with the Jesuits, they would proudly assert that "the bare feet of St. Francis were the first to tread American soil."

Like the Spanish, the French Catholic priests were quick to realize that the Indians were attracted by glitter and color. So these stalwart French missionaries who paddled their way alone thousands of miles along the rivers in the great woods would take along little portable chapels, small enough to carry on the back, equipped with silver chalice and embroidered chasuble. The Indians believed the chalice and other vessels to be the spirits with which the priests were in communication; and they were particularly impressed with the sleeveless mantle known as the chasuble, which they called "The Robe of the Sun."

Even in remote parts of the northland the great La Salle, it is said, was careful to appear at Mass in a scarlet coat trimmed with gold lace. His sense

of appropriateness in costume sometimes carried him to unexpected lengths, if we are to believe his fellow traveler, Father Hennepin. One day, happening upon an Indian ceremony where corpses, dressed in gorgeous robes, were carried on the backs of chanting Indians, he pulled the chasuble off Father Hennepin himself and threw it over a cadaver which was less elaborately attired than the others.

The Marquis de Tracy, viceroy of New France in 1665, never went out without being preceded by six guards wearing the royal colors, and four pages followed by six lackeys, plus a retinue of officers in full uniform. Some nobles ruined themselves to keep up the insignia of their rank. Among these was the Marquis de la Jonquière, who spent sixty-seven thousand crowns to equip himself for office, bringing from France a captain and twelve guards in scarlet uniforms embroidered in gold, in addition to a secretary, twelve servants, horses and carriages. And even minor nuances in the matter of costume were by no means lost upon the Indians, who were quick to notice, for instance, that the Governor de Bienville did not wear the order of the Cross of St. Louis, as did many of the officers of His Majesty, and therefore treated him with diminished consideration.

The bourgeois and the merchants also dressed in the height of fashion. Gentlemen with marriageable daughters tightened their belts to pay for elegant gowns that might attract the eye of a potential suitor. Officers without fortune were in the habit of asking, or even buying, long periods of leave, to become *coureurs de bois* and accumulate enough furs to pay debts acquired in maintaining the requisite standard of elegance.

Before Louis XIV, the French noble's costume was all frills, ribbons, and laces. But the beginning of his reign was passed in wars and conquests, and military styles gradually superseded those of the courtier. The braided doublet was replaced by a jerkin or short jacket, concealing most of the elaborately bedizened petticoat breeches. At the end of the Sun King's reign, however, the ancestor of the modern costume came in: the dress or frock coat, waistcoat, and breeches. High boots contained pockets at the top large enough for papers and documents. Shoes for formal wear had red heels, and to this day in France people who are over-ceremonious are known as *talons rouges*. Seventeenth century hats, adorned with feathers, had large borders turned up on three sides; as time went on the feathers disappeared and the hat shrank in size, to become the "tricorne" or three-cornered cocked hat associated with the *ancien régime*.

The elaborate costumes of the French nobility may have been appropriate enough at Versailles, but in the New World the effect was sometimes bizarre. In the Governor's antechamber you could see ladies dressed as for a royal reception rubbing elbows with Huron squaws swathed from head to foot in greasy white blankets and carrying their papooses on their backs. And in the public square you might see a functionary in court costume, with wig and

sword, conversing animatedly with a fierce-looking Iroquois, his lance by his side, and scalps hanging from his belt.

Sometimes there would be a procession headed by the governor in court costume, followed by a group of Indians, dressed in beaver skins, carefully holding a canopy over the Holy Sacrament.



A WOODS-RUNNER OR "RANGER OF THE FOREST"

The French *coureur de bois* wore a fur toque and a jerkin of buffalo hide, sometimes stitched with catgut from the intestines of wildcats. Ample breeches of moose-skin were not uncommon, and he sometimes preferred the Indian's moccasin to the heavy boots shown here. The Indians called the *coureurs* "dirty" because they wore beards.

According to Peter Kalm, the Swedish traveler, the ladies of New France were lovelier to look upon and pleasanter to talk to than those of the Dutch and English colonies. They decorated and powdered their hair every day, and put it up in curl papers every night. So high were their heels that people were surprised that they could walk at all.

It was otherwise among the poor. A shipload of orphans sent from Paris in 1721 brought with them dowries consisting of two suits, two skirts, two petticoats, six corsets, six chemises, and six head coverings. A young peasant girl, working for two years and a half, received as entire remuneration, except

for her bed and board, six chemises, six little collars, two neckerchiefs, two handkerchiefs, two petticoats, two cuffs, two pairs of stockings, and one pair of shoes.

Men of the working class wore long vests over their shirts; leggings of buckskin or coarse woollen cloth; and on their feet wooden clogs or heavy leather moccasins. In field or forest they often wore clogs of cowhide.

## FOOD

In one of the first eyewitness accounts of the exploration of what is now Louisiana, there is a description of how Iberville and his men fared in the wilds. While half of them were occupied building a fort, the other half killed four hundred buffaloes for the winter supply of food. After the buffaloes had been skinned and eviscerated, they were quartered, and the pieces stuck on the top of platforms inside the fort, out of harm's way. At the beginning of the winter they were all seized with violent indigestion and raging fever, but at the end of six weeks not one among them ate less than ten pounds a day of bison meat, or drank less than four bowls of bison soup.

A member of La Salle's expedition has described how buffalo meat, or even plain beef, was prepared for storage: "Cut the dried meat into little, thin squares, put them on a grill and dry them again in the smoke of the fire until there is no humor left in them and they are as dry as sticks of wood." This done, the dried meat, in bark-wrapped packages, could be kept five or six years without spoiling, but one is tempted to wonder how the fastidious French enjoyed a meal in which the entree was a square of buffalo meat, six years old and as hard as wood, followed by corn dipped in bear oil, and topped off by a dessert of sunflowers!

With regard to the beaver, whose flesh was so relished by explorers and colonists that they wanted to eat it every day in the week, a theological difficulty arose. Was it an animal or a fish? If the former, Catholics would have to forego the pleasure of eating it on Fridays. The question was solemnly referred to the Faculty of Medicine and the Faculty of Theology in Paris, which after due deliberation decided that on account of its rather aquatic-looking tail it must be a fish, and could therefore be eaten on fast days.

The indefatigable explorer Admiral de Bougainville declared that the tail of the beaver was a prized Canadian dish, deserving to rank, as a delicacy, with elk's muzzle and bear paw. He also evinced a fondness for potted elk or moose, while the Governor of Trois Rivières was overheard telling Père Marquette that roast porcupines were as delectable as suckling pigs.

During their battles with the Spanish in Louisiana, the economical French did not scruple to provide their enemies with pigs and chickens, and when the Creoles themselves failed to receive supplies from home, the Spanish returned the compliment. The colonial administrators of Louisiana learned to mix oatmeal and cornmeal for the chickens and pigs, and, it is said, they





#### CREOLE DELICACIES

In the shady, flagstoned corridors of the Old Market in New Orleans one met the vendors of pralines, and calas, or New Orleans rice cakes. Here one could buy "fillet power" to make gumbo, and delicious French dripped coffee. This wood engraving by J. W. Alexander appeared in *Harper's Weekly*, January, 1882.



did not hesitate to serve the same diet to the counterfeits, smugglers, and other undesirables who made up a large part of the early population of the colony. Potatoes came to be considered the appropriate nourishment for the Negro population. The French didn't take to potatoes right away, and in Canada made fun of the English for liking them, but we know that it took the English quite a while to get used to them, too.

The colonists who made the long trip from France to Louisiana were obliged to stop at Santo Domingo to replenish their supplies and await a favoring wind. Many, too, were the Acadians who in the course of their wanderings were stranded in Santo Domingo for a while before ending up on the shores of the Gulf of Mexico. Santo Domingo was the country of pepper, and known as such throughout the world. (When you wanted to consign someone to perdition, you told him to "go to the country where the pepper grows.") And that explains why the cooking of New Orleans is so highly spiced.



THE OLD NEW ORLEANS MARKET

When Latrobe visited New Orleans in 1819, there were stalls with awnings, and wares exposed on the ground along the levee as far as the eye could reach. He mentions the "incessant loud rapid and various gabble of tongues . . . [which] proceeded from the market . . . Choctaw Indians . . . grizzly and lean Spaniards . . . mulattoes, quadroons . . . women dressed in the most flaring yellow and scarlet gowns." From the market, sloping down to the river, runs Gallatin Street, haunt of seafaring men, notorious for its murders and shady doings.

While the "Creole" cuisine is really a mixture of French and Spanish, with a touch of Indian, these well known New Orleans dishes are typically French: *biscuit glacé*, *beurre blanc*, *bisque d'écrivisse*, *blanquette de veau*, *lapin chasseur*, *moules poulette*, *petite fermière*, *poulet marengo*, *riz de veau*, *sauce poulette*, *sauce remoulade*, and *soupe à l'oignon*. Also typically French, and widely known for its flavor, is the New Orleans *café filtre*, or filtered coffee.

"In New Orleans you can eat a bouillabaisse the like of which was never eaten in Marseilles or Paris," wrote Thackeray. (Bouillabaisse, which originated in the south of France, is a remarkable fish stew made by dumping lobsters and all other kinds of local fish into a pot, after frying them in olive oil.)

The word "gumbo," means a descendant of French and Indian parents. "Gumbo" soup is usually made with a base of chicken or turkey; or of various shellfish, such as oysters, crabs, shrimps; or of vegetables—cabbage, watercress, parsley, and what is called in French *finer herbes*, or in Creole parlance, *Z'herbes*. Characteristic ingredients are red pepper, okra, and a mysterious powder known as *poudre au filet*, made by the Choctaws of dried sassafras leaves, beaten to a powder, and passed through a hair sieve.

In this melting pot of races the Spanish are represented by various peppers and spices such as saffron, and by a generous use of the tomato. On the shores of the Gulf, Spanish omelettes and broiled Spanish mackerel are never far to seek.

The hardworking French colonists in the north had less time for the pleasures of the table. What they wanted was good solid food and plenty of it. They liked to begin their day with a bit of bread dipped in brandy. Coffee was rare; tea rarer. The long, cold winters taught them to depend on frozen food, which the housewife cooked in her spare time. If a visitor happened in, it would be warmed up in a trice on the big, red-hot stove and served as a stew, or as braised beef, or *boeuf bourguignon*.

The French Canadians liked beechnuts, which they picked in the fall, and left to dry until winter.

Shortly after 1600 the first apple seedlings were sent over from Normandy, and from them has come the big red Canadian apple that is known the world over today. Pumpkins were cut in half, roasted, in front of the fire, and eaten with sugar. Another popular dessert consisted of pancakes served with molasses or maple sugar. Everyone loved the sugared almonds which were distributed at christening time—an old Gallic custom. Moreover these colonists, true Frenchmen that they were, agreed with Brillat Savarin, supreme master of French gourmets, that "a dessert without cheese is like a pretty girl with only one eye."

Monsieur de Gaspé has given us a description of a French Canadian potted pie to end all pies. It was called an Easter pie, and contained a turkey, two chickens, two partridges, two pigeons and the back and sides of two hares. These were covered with slices of bacon and fat, and surrounded by a thick layer of ground ham with big onions stuck in it, outside of which was a crust an inch thick.

Mealtime in the home of a farmer of New France was not without its charm. When a stranger entered, the head of the house would rise from the

table and take off his hat, nor would he seat himself or cover himself again, until the visitor was comfortably installed at table. The farmer's wife usually stood behind the guest to serve him. Children didn't eat at table until after their first communion; in some homes they had a little low table of their own, or ate in the kitchen off a little chopping block known as a *bliot*. "You still eat off the *bliot*," a boy would say, if he wanted to make another feel small. When visitors or neighbors happened in, the diners would sing throughout the meal, men and women alternating. Many a toast was drunk in good strong brandy. Later in the evening, someone would scrape a fiddle, and there would be country dances, and even once in a while an attempt at a minuet or quadrille.

It should not be forgotten that France was always the home of good cooking. In the United States today, when you go into a good restaurant, the waiter brings you a "menu." Most of the dishes pretend to be French even if they aren't. Hotel managers, and wealthy people who are anxious to be noted for their cuisine, usually entrust it to a Gallic chef, who is often a man of considerable education, and no little an artist. And of the thousands of recipes used in American homes, a large proportion have come from the pleasant land of the gourmets and the gourmands.

## AGRICULTURE

New France was an enormous territory consisting for the most part of vast stretches of virgin forest, both in Canada in the north, and Louisiana in the south. Once you left the mouth of the St. Lawrence, or the Mississippi, to plunge into the wilderness, white men were few, and these for the most part were engaged in trading in fur or holding the outposts of a far-flung empire. Here and there, however, a man settled down to till the soil. In the North, they were farmers cultivating intensively little patches of land. In the South, they were planters cultivating extensively large tracts devoted to a single crop.

Little by little, subsistence farmers from Canada and even, some say, from Louisiana, came to rest in the great granary of the Illinois country. Meanwhile the lower Mississippi region near the delta was divided up into concessions where attempts were made to cultivate silkworms, tobacco, indigo, rice, figs and oranges. Tobacco was grown which, it was claimed, vied with that of Virginia. And back in Paris, fine ladies refused to have their homes lighted by anything but candles of wax from the Louisiana bayberry.

After King George's War a few disbanded soldiers, according to official documents, were established along the upper reaches of the Ohio River in the middle of the eighteenth century. Each one was given land, a cow and a calf, a cock and five hens, an ax and a hoe, a gun with powder and shot, grain for seed, and rations for three years. In December these settlers would send their boats down to New Orleans with flour, corn, bacon, bear bacon, beef, pork,

buffalo robes, hides and tallow. Two months later the boats came back up the river with merchandise from Europe for settlers and Indians. The boatmen would sing the ancient songs of the Paris *faubourgs* and of their own provinces, to which had been added many a verse inspired by their life in the colonies.

## INDUSTRY

Neither the glint of gold, nor the lure of a passage to the Orient, nor the desire to found an empire, brought the first French to American shores. It was the humble codfish. For hundreds of years before America was settled,



THE BEAVER, SOURCE OF WEALTH

The fortunes of New France depended in large measure upon the beaver. By the hundreds the canoes converged at the trading posts, and even in the earliest days from fifteen to twenty thousand skins were sent back to France every year.

the brave and hardy fishermen of the French coast—Bretons, Normans, and Basques—had been crossing the Atlantic in their tiny barques to the Newfoundland banks. They it was who founded the first settlements on that wintry Northern coast and started the traffic in cod which was to make the Grand Banks known the world over.

There were no cabins on the early ships; the fishermen protected themselves against the elements with sheets of tarred canvas, or by standing in barrels. According to an ancient treatise on the art, the “dressing” of a cod was divided into three operations: One man “seizes the codfish by the head, cuts his throat, and cleaves his stomach as far as the navel.” The next “pulls out all of his organs which are not intended for use”; then the third, “wearing a mitten on his left hand, takes the fish by the ear, puts it down against a wooden bar, cuts out the backbone, and throws the fish into a little box with sliding doors, from which it passes into a wheelbarrow (if the operation is

carried out on land) where it is taken off to be salted in brine. It is then hung on a grape vine to dry in the sun." Not far from the scaffolding where the fish were dried were a number of cannon, for there was always danger of a raid by Indians or corsairs.

The beaver, however, came to be even more important than the cod, for upon the trade in furs was built France's Northern empire in the New World. Every year the *coureurs de bois* ventured out into the wilds in canoes loaded down with merchandise for the Indians. After many moons they would return with their canoes weighed down with beaver skins. As late as 1754, in the more distant outposts, you could get a beaver skin for four grains of pepper. And you could get eight hundred francs worth of beaver skins for a pound of vermilion or cinnabar, for the Indian braves to "make up" their faces with. It was not unusual to see a medium-sized canoe returning with twenty-five hundredweight of beaver skins, making forty bundles, each worth a hundred crowns. Fresh from his long stay in the wilderness, the *coureur* spent all his profits in a few days' merrymaking, after which there was nothing to do but start out again.

## TRANSPORTATION

The *coureurs* and missionaries were the first Frenchmen to travel extensively on the American continent. Since the only paths open to them through



MISSISSIPPI CARRIER

These crudely constructed flatboats were used by the French settlers along the banks of the Mississippi and their descendants to carry grain and flour down to New Orleans. There they were broken up and sold as lumber.

the thick forests were the rivers, they used canoes, which, according to Père Marquette, "made of birch bark stretched on light cedar frames, supported by light crossbars which held together the sides, were the triumph of Algonquin art. To bind the bark with pine tree roots was a delicate art in which the savages excelled. Twenty feet long and only two feet wide, the canoes could carry four men and eight or nine hundred pounds of equipment. Their equilibrium was so unstable that the slight shifting of twenty pounds would upset them, and there was only the thickness of four or five sheets of paper between the passenger and death."

Difficult and dangerous points at rapids and falls where it was necessary to carry the canoes to smooth water were called portages from the French

word *porter*, meaning to carry. At first merely convenient stopping places for the night, some of them grew into settlements and finally into towns and cities, such as Portage, Wisconsin. Through the canals at Sault Ste. Marie, where Père Marquette made one of his first portages, more ships now pass every year than through the Panama, Kiel, and Suez Canals combined.

The most common river craft in Louisiana was the pirogue, or dugout. Until they learned the use of hatchets from the colonist, the natives protected the part of the trunk they wanted to save with a kind of mortar, and set fire to the rest. The French made some big dugouts; one in use at the King's Farm was able to carry a crew of fifty Negro paddlers. "But truth to tell," adds the chronicler, "they were very close one to the other."

Later, when the Illinois country became the granary of the colony, big flatboats were used to carry crops and passengers down the river. From thirty to fifty feet long, from twelve to twenty feet wide, and never less than four feet in draught, they were difficult to steer. And as they were built without nails, if they hit a rock or floating log, they fell to pieces, many being lost in this way in the Mississippi. When you hired a flatboat for a trip, you paid so much for every foot of length.

## LIFE IN THE COMMUNITY

The French had a natural gaiety and friendliness which won the hearts of the Indians. They thought nothing of settling down in Indian villages, marrying the squaws and teaching them dances like the minuet and the *bourrée*, and playing knucklebones and lacrosse with their dusky brothers-in-law. Even the King and his court were curious about the inhabitants of France's new empire; in 1720 several Indians were sent to Paris where they had an audience with His Majesty, hunted in the Bois de Boulogne, and attended the ballets at the Opera. A Tamaroa from Illinois described Paris in these words: "In the big village there are as many people as there are leaves on a tree. I saw the hut of the big chief [the *Louvre*], and that of the ancient warriors [the *Hôtel des Invalides*]. But the most beautiful of all was the Street of the Butchers because there was so much meat."

The French Canadians loved to sing. "Every day the common people of both sexes unite and sing so loud that the Bishop hears it as if he were in his own house," complained the Bishop Coadjutor of Quebec in 1731, and added: "On Sundays and holidays, we get headaches from the noise made by the players of ninepins and bowls." At weddings and christenings the folk songs of *la vieille France* mingled with those of the new colony, and they followed the Canadians down into Louisiana. One writer describes how at Bayou Tèche he heard an Acadian washerwoman singing the plaintive song of the *clairefontaine*, while her children took up the refrain. On the stock farms which supply New Orleans with meat, the Acadians gave dances with fiddles

for music, wooden benches for seats, four candles for chandeliers, rum and water for liquid refreshment, and gumbo for food.

The traditional gaiety of New Orleans has been preserved in the renowned Mardi Gras, or Shrove Tuesday Carnival, brought to Louisiana by the sons of planters and merchants returning from their studies in Paris. From earliest days New Orleans had been the city in America most addicted to dancing. Aping the festivities of the court of Versailles the French colonists gave ball after ball. They even used the taking-over of Louisiana by the Spanish, and later by the Americans, as an excuse for elaborate festivities! To celebrate the return of the Dauphin to the throne of France in the middle of the eighteenth century, a supper of two hundred covers was served, attended by chevaliers and ladies as richly dressed as those in any European capital, while the populace outside besieged the fountains of wine which flowed throughout the night. As a crowning touch, carrier pigeons bearing lighted wicks set off a dazzling series of fireworks.



## CHAPTER III

### THE DUTCH: Burghers and Bouweries

#### INTRODUCTORY

OF THE hundred and thirty-odd million persons in the United States today, some eight million live in and around New York. It is almost a city state. This great entity, whose way of speaking, thinking, and living is Anglo-Saxon, was originally Dutch. The good old Dutch names of Van Cortlandt, Van Rensselaer, Stuyvesant, Schuyler, and Rhineland, have not vanished from the records; the city's patron saint is still Father Knickerbocker. And modern New York with its emphasis upon commerce and trade certainly owes no little to the industry and mercantile talents of the Dutch settlers.

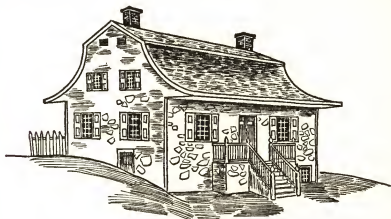
In 1609, the English explorer Henry Hudson, working in the interest of a group of Amsterdam merchants, was seeking a safe route to the Indies for the spice trade; spices were an important commodity in those days because there were no refrigerators and in winter meat was tough and unpalatable. His friend Captain John Smith wrote him that the passage might be found at latitude 40° north, where there was a large body of water. But to Hudson's disappointment, the great river grew shallow above what is now Albany. Realizing it would never lead to India, he turned his little ship around and left the river that bears his name to seek his fortunes elsewhere.

But the cupidity of the good burghers of Amsterdam was excited by the tales the sailors brought back of the valuable beaver, otter, and mink pelts the Indians were glad to exchange for glass beads and other trifles. A little colony was founded at the mouth of the Hudson, and to tempt the comfortable Dutch from their homes, huge grants were offered along the banks of the river. The English, who considered the country part of Virginia, never admitted the right of the Netherlands to colonize the region. Indeed, they captured New Netherland in 1664. But the Dutch retook it in 1673, only to surrender it finally the following year when a treaty of peace between Holland and England was signed at Westminster. The Netherlands renounced their title to what was to become the richest city in the world, and gradually the English language, English architecture, and the English way of life replaced those of the vigorous little nation on the shores of the Zuyder Zee.



## HOUSES

As soon as circumstances permitted, Mynheer Dutchman, whether on his *bouwerie*, or farm, or in New Amsterdam, as the little settlement at the Hudson's mouth was named, built himself a home like the one he had left behind in Holland. In the country, houses would be a story and a half high, with a garret for grain and other stores; and a long, sloping, thatched roof, sometimes coming down to within a few feet of the ground. As time went on, the roof often formed the top of a piazza in front. There would be a big



A DUTCH COTTAGE

The double pitch and curving roof line identify this house as Dutch. Cottages of this type were still fairly common about the time of the Revolution, and the profile is often copied in modern suburban houses.

fireplace made of stone picked up in the near-by fields, with a chimney of boards plastered inside with mortar or mud. Some houses were surrounded by a palisade to keep out the "Wilden," as the Indians were called.

Energetic farmers garnered the big rough stones from the fields, placed them on top of each other, and filled in the interstices with mortar made of clay or mud mixed with straw or horsehair, or of lime made of ground oyster shells like the Indian *tapia*. Such houses as were made of fieldstone had walls often more than two feet thick, with narrow openings through which a musket could be thrust with which to blaze away at the "Wilden." To help keep the houses warm, ceilings were low, and the windows, set in leaded casements, were small.

In the later country houses, the lower part of the walls was wainscoted, and the upper half was plastered. Heavy oak beams supported the floor of the garret. The gaily decorated fireplaces were big enough to hold the massive andirons, fire tongs, rack for fire irons, pot hooks, spits, great kettle, bellows,

and warming pan, and they were deep enough and long enough for the whole family to bask in the welcome warmth.

In the summer the family betook themselves to the front porch, which had seats at each end, or one seat running the entire length, where they gossiped in the long twilight.



A DUTCH DOOR

The typical Dutch door was in two sections. The upper, in fair weather, was left open to admit light and air; the lower was kept closed to prevent stray pigs from coming into the house.

Before the windows were curtains hung on string, and the window ledges were gay with pots of flowers which reminded the settlers of their homes in Holland. Lombardy poplars were often planted like sentinels to guard the stoep, and around the house were small, well-kept gardens which in the earliest days had grown up from seeds the housewives had brought with them or had had sent from Holland, and which, it is said, made a material contribution to the flora of North America.

As the colony grew, stonemasons, brickmakers and pantile bakers were added to the list of artisans. In design, New Netherland dwellings began to resemble the brick houses of Holland, with a characteristic not to be seen in

any other houses in America—the notched roof line, or step gable. Another typically Dutch feature: houses were built with their gable ends abutting on the street so that rain water dripping off the whole length of the roof could conveniently be collected in hogsheads in the yard.

The later houses of New Amsterdam, and of Beverwyck, which became Albany, were two and three stories high, and were built of the brick so typical of the water fronts of Holland. But these bricks hadn't, as most people believe, made the long trek across the ocean in the holds of the *vlie-booten*; they were made in local brick kilns.

Proud of their houses, the burghers decorated them with large weather-cocks. And there were houses which had large letters or numbers at the ends of the anchoring irons used to hold the wall together, giving the owner's initials, or the date the house was built. City or country, the doors were usually in two sections, the lower one being kept closed to prevent pigs from coming into the house, and the upper one open, in fair weather, to admit light and air. Most of the houses had glass in the windows, and—here the Dutchman's love of decoration again declares itself—there would be at least one small window of colored glass through which the sun would send fingers of richly hued light.

When the roof was finished, or when the house was completed, the workmen were treated to a feast at a near-by tavern or *kroeg*. Contracts for houses were rarely signed without provision being made for such an entertainment.

By the end of the eighteenth century even the descendants of the Dutch colonists had stopped building houses like those of their ancestors. But the architects of a later day, happily, borrowed the sloping roof and the restrained charm of the Dutch cottage for some of the less pretentious houses which dot the suburban sections of New York, Connecticut, and Pennsylvania.

## FURNITURE

The furniture of the burgher and his *goede vrouw* reflected their solid, home and comfort-loving temperaments. There were large, heavy beds, huge chests, and substantial chairs of dark wood sometimes elaborately carved and ornamented. There were dressers for the proud display of well-polished silver, pewter, glass, and china, most of which was never taken off the shelf.

A favorite type of bed in the early days was a closet-like bunk built into the wall, with two doors which were kept closed when the bed was not in use. Inside was a large feather bed, with a smaller one above it, and in between these two layers, like the ham in a sandwich, lay the sleeper himself. The Dutch were hospitable and the family sitting room often boasted an auxiliary bunk for guests. There might also be a pile of skins and rugs close to the fire, known as a "Kermis bed," because at festival time—and the boisterous Hollanders dearly loved their festivals—the house overflowed with visitors.

Probably the most important article of furniture in the early Dutch home was the great cupboard or universal hold-all known as the "Kas." Their moldings, and cornices were not infrequently heavily carved, and some had elaborate marquetry depicting familiar scenes. Others were painted. There were frequently a few secret drawers tucked away behind the regular drawers and shelves, and the lock might be concealed by a carved piece of wood which could



A BUILT-IN BUNK

Most Dutch householders in the early years of the colony favored the sleeping bunk, or shelf in the wall, with doors or curtains, since it did not take up space in the room. Farmers and working people slept in great boxes filled with sacks of hay, dried leaves, or corn silk.

be swung aside. So large was the key that it "seemed more fitted to unlock a fortress than a marriage-chest." For these valued cupboards, stocked with household linen patiently gathered together by the women of the family over the long years, constituted an important part of the dowry.

Chairs were usually straight and high-backed, with seats of matted rushes, or, less frequently, of leather studded with brass nails. An elaborately designed armchair was reserved for the pater familias. Even in such lowly objects as stools, the Netherlands indulged their taste for ornament.

Trader or farmer, the Dutchman's ideal was to convert the fruits of his industry into a quantity of handsome objects that bore eloquent, if mute, witness to his success, and to his social standing. The shelves of the dresser were crammed with handsome pewter, fine glass, Delft ware and China;

silver beakers, candlesticks, and spoons polished to the dazzling point. Typical also was the wooden spoon rack, or *lepel-bortie*, with narrow shelves containing holes into which the spoons were inserted.



AN OLD DUTCH TILE

The picturesque Dutch tiles familiar to us in the paintings of De Hoogh and Vermeer were often painted in blue on a white enamel, in imitation of blue-and-white Chinese porcelains. Made in the seventeenth and eighteenth centuries, the earliest tiles formed a continuous pattern; succeeding ones were decorated with separate designs or pictures, while others, often painted in a variety of attractive colors, formed one complete picture.

And there they were apt to remain, for most of the time the family, gathered around the kitchen table, used the plainest of wooden ware and pewter, the china making its appearance only for some such special occasion as a tea party. Tea was a luxury, to be taken in sips from a tiny cup, alternating with nibbles at a piece of sugar loaf laid beside each plate.

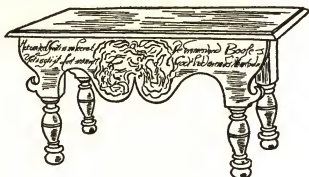
But your Netherlander didn't stop there. In addition to having a dresser full of beautiful things which were rarely taken out, he had a "best room" into which persons were rarely invited. But let no one imagine that the dust was allowed to accumulate there; with typical Dutch thoroughness, it was given a good cleaning once a week.

The front door of the simple country houses, according to Washington Irving, was rarely opened except for marriages, funerals, New Year's Day, or the feast of St. Nicholas. The resplendent brass knocker was almost never used, but, the chronicler of New Amsterdam would have us believe, was polished so often that it wore out after a few years.

City houses and better class homes boasted a vestibule, which was apt to be decorated with faïence plates bearing waggish inscriptions, for despite so much emphasis on the signs of material and social well-being, the Dutchman retained his sense of humor. One of these read: "This house is never lacking in fools; he who does not amuse himself in it can get out."

The squaws camped about the *bouwerie* barns were treated with friendliness, but never allowed inside the home for fear they might bring a little

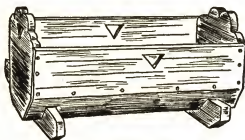
dirt in with them. And Irving, tongue in cheek, tells of the *goede vrouw* who was "held in pious remembrance . . . for having died of pure exhaustion



A CHURCH BENCH

Your Dutch settler liked to have his own bench in church. Often these benches were lavishly decorated. The one shown here is painted black, with scenes in bright colors, depicting the angels separating the sheep from the goats on the Day of Judgment.

and chagrin, in an ineffectual attempt to scour a black man white." One thing is certain: in an uncleanly age, the Dutch were the cleanest people in the world. Outside of clothes brushes and hair brushes, inventories mention scrub-



A CHILD'S CRADLE

When they were very young, little Dutch boys and girls slept in cradles like this one; toward the end of the Dutch regime when large four-posters were more common, they used a trundle bed which could be rolled under the big bed during the day.

bing brushes, dust brushes, floor brushes, rake brushes, whitening brushes, painting brushes, hearth hair brushes with brass and wooden handles, chamber brooms, hearth brooms, "Bermudian brooms with sticks," not to mention washing tubs, pails, rain-water casks, sticks to hang clothes upon, smoothing irons, and wicker baskets. One family owned fifty-one brushes and twenty-four pounds of soap.

The Netherlands shared in the East India trade, and little by little Japanese lacquers, cabinets and blankets from India, carved ebony and wicker chairs, white dishes and porcelain decorated with strange figures from China, made their appearance in New Netherland houses. And these already substantial collections of fine objects were further enriched by the bartered booty of the buccaneers who ravaged the coasts, with whom the canny burghers made it a point to be on good terms.

## CLOTHES

The impression of portliness given by the burgher and his wife was in no way diminished by the clothing they wore. Their garments were as generous as the furniture which surrounded them, substantial as the houses that sheltered them. And no repressive measures, as in the case of the Puritans, prevented their indulging their love of bright colors and elaborate trimmings.

Fiery old Peter Stuyvesant himself, now, made up for the uncouthness of his visage by always being impeccably dressed. According to contemporary accounts, he frequently wore a buff leather jerkin beneath a cuirass, over all of which was a long cloth cape. On that memorable day when the little village formally became the City of New Amsterdam, he is pictured as thumping along at the head of the procession, grasping a goldheaded cane in one hand and the hilt of his sword in the other. His hair, thick with pomade, stuck out stiffly on either side of his head.

On other days the governor wore a velvet jacket whose sleeves disclosed fine, puffed white linen shirt sleeves and a white falling collar. His baggy breeches were slashed, and his hose were fastened below the points by large silk scarves with rosettes on them.

Your patroon, or proprietor of one of the huge estates along the Hudson handed out to rich Netherlands who could bring over a number of settlers, wore broadcloth or velvet breeches with buttons down the side—the more buttons the better—and woolen hose. Large bows were tied around the instep of his wooden heeled leather shoes. He wore a white plaited falling ruff, or flat linen collar, and a felt hat over whose broad, flapping rim swept feathers of different colors. The wealthier wore satin and silk trimmed with lace and fur, and their buttons and buckles were frequently of gold studded with jewels.

The patroon's lady or any other well-to-do woman of the colony might wear a satin or velvet gown trimmed with gold braid, a pointed bodice with full slashed sleeves showing white undersleeves, and a lace collar or stiff ruff. She also wore a long linen over-dress, open down the front to show the dress beneath. It was tied at the elbow with bands of ribbon. Later it evolved into a loose knee-length jacket, trimmed with fur.

Her hair was tied in a knot at the back, with short locks on the sides, and a fringe in front. In the latter part of the seventeenth century, married women wore a brocade "coif" trimmed with bands of silver lace.

The housewife wore a "chatelaine" of heavy gold or silver, or brass, around her waist. From it, on several smaller chains of steel, hung all manner of "everyday things" from keys, pincushions, and scissors, to little cases for



A PATROON AND HIS "GOEDE VROUW"

In the early days of the colony, Dutch ladies were fond of wearing large ruffs stiffened with gold and silver wires; tight-fitting, boned and laced bodices; full skirts; and handsome petticoats of silk, damask, satin, or velvet. As befitting a man of position, the early patroon carried a sword hanging from a baldric. His hat was broad-brimmed; the doublet had a high waistline; sleeves were full-slashed. So typical were the baggy "Knickerbockers" that the word has practically become a synonym for Dutch.

needles and thimbles. When she went to church on Sunday, the prayer book hung from the chatelaine by long chains. And chatelaines were often given as wedding presents.

Women of lesser degree than the patroon's wife wore as many petticoats as she, and over them a full skirt gathered at the waist. They wore little waistcoats with tight, elbow-length sleeves, and a demure folded white kerchief over their shoulders. Their fine lace, linen or cambric caps were worn over a metal head band, trimmed with metal ornaments attached to it consisting sometimes of spirals or rosettes, whose designs indicated the part of



Holland from which they had come; the quality of the metal used in the ornaments indicated their social position.

The same was true of petticoats. The young bride, for instance, wore all the petticoats she had—they were part of her dowry and indicated the wealth of her family. Her bridal crown—that precious memento which was carefully stowed away after the wedding and handed down from mother to daughter—was of silver set with precious stones, provided her family could afford it. Otherwise, it was made of cardboard, covered with gold and silver silk.

Apron and cap were indispensable to the Dutch woman's wardrobe. One New Netherland dame had a purple apron and four blue ones, and twenty-three cambric and linen caps.

The usual costume of peasant women and house servants consisted of short woolen petticoats with loose red or blue jackets of coarse linen, long white aprons of coarse homespun, white kerchiefs about the shoulders, and close-fitting white caps.

The ordinary burgher, in the latter part of the century, wore a sleeveless cassock, buttoned down the front, with knee-length skirts; cylindrical breeches reaching a little below the knee; and a stiffened linen collar. Distinctions in costume indicated social position. Dr. Hans Kierstede, the colony's first doctor, used to visit his patients in a black suit, long-tailed coat, black stockings, square-toed shoes, and a huge black hat, and probably spread gloom wherever he went. The "rattle watch," who patrolled the town day and night carrying long staffs and lanterns in addition to their rattles, wore blue cloth coats with orange facings. The town herdsman carried a twisted cow's horn with a mouthpiece, which hung from his shoulders. Farmers wore baggy breeches, and doublets of homespun, leather, or beaver, and, except on Sunday, wooden shoes. Laborers and artisans wore suits of rough homespun cloth known as linsey-woolsey because the warp was of linen and the woof of wool, the usual workingman's costume in all the settlements on the Atlantic coast. The manual worker wore yarn stockings, hand-knitted, of course, and a Monmouth cap, resembling a rather squat stocking pulled down over the head, and a long leather apron which was dyed a brilliant red.

## FOOD

Wisely, the Dutch colonists brought enough food with them so that unlike the Cavaliers and Puritans, they were not entirely at the mercy of their first harvest. And the *goede vrouw* lost no time in setting out a little vegetable garden in which parsnips, carrots, turnips, cabbages, and herbs waxed and grew succulent. They made friends with the squaws and learned how to cook the native vegetables, and how to grind corn for bread by beating the kernels in hollow stumps with a wooden pestle. And little boys learned from the friendly "Wilden" how to make hooks of bird claws, locust thorns, and chicken bones, with which to go fishing in the mill race. Special treatment was re-

served for the first shad of every season. It was split, fastened—Indian fashion—to a piece of birch bark, cooked over a wood fire, and served to His Excellency the Director General.

For cooking their own delicious specialties from Holland there were particular utensils hanging on the walls of Dutch kitchens. There was the "izer," for example, or waffle iron. It consisted of two round cast-iron plates with long handles attached to them. On the inside of the plates were designs which appeared in turn on the waffle, or "izer cookie." Popular as wedding gifts, they often bore the groom's coat of arms, the initials of the bride and groom, and the date of the wedding. And there were special pans in which to make "marzipan"—delicious little quaintly-shaped, almond-and-sugar cakes.

The kitchen and storeroom shelves were stocked with jars of preserves, pickles, pig's feet, pickled pork, and salt fish, which the busy housewife somehow found time to put up. On feast days, christenings, and weddings, she had a happy time preparing apple pies of generous proportions, apple cakes, puddings, and delectable pastries. "Oly koeck," for instance, was a kind of cousin of our doughnut, the difference being that the hole-part was filled up with a "surprise" in the form of a nut or a raisin.

The Netherlanders, obviously, were hearty eaters. Nor did they look with disfavor upon the flowing bowl. Holland gin, Jamaica rum, sherry, and Bordeaux wines were favorite drinks. When a young man of wealth decided to marry, it was the custom for him to lay in a "pipe"—a cask holding a hundred and twenty-six gallons—of Madeira wine. Part was used to celebrate his nuptials; and part for drinking the health of his first son, while the rest was carefully stowed away to console the mourners at his funeral. At the receptions which followed christenings a special drink called "caudle" was served. In fact it proved to be such an important feature of the occasion that christenings came to be known as "caudle parties." Here is an old recipe for caudle which was handed down from generation to generation: "Two gallons of the very best Madeira wine, three gallons of water, seven pounds of sugar, oat meal by the pound, spice, raisins, and lemons, by the quart."

The caudle was served piping hot in a large silver bowl from which hung small silver spoons. Each guest was handed a tiny china cup, and, using one of the spoons, filled it with the aromatic cordial.

## AGRICULTURE

In accordance with his character, the Dutch farmer took good care of his crops, kept his land neat and clean, and his fences in good repair. In the little *bouweries* of New Netherland (from which came the name of New York's "Bowery"), furrows were straight, and weeds persistently exterminated. Conditions favored the development of agriculture. Winters were less severe than in New England, and the summers not so hot as in Virginia. In contrast with the stone-studded fields of Massachusetts, the soil was rich and easy to till.





*From PLATE 20-B in Vol. I of Stokes' "Iconography of Manhattan Island"*

### THE FIRST CITY HALL

The original "Battery" at the nether tip of Manhattan Island can be seen in this lovely old drawing of the Stadt Huys and the other houses facing Coenties Slip, which with their stepped gables suggest the architecture of old Amsterdam. The Stadt Huys began as a tavern, mainly for the accommodation of English ship masters, encouraged by the authorities to stop over on their way from New England to the plantations of Virginia—a fact which had no little bearing on the ultimate downfall of the Dutch regime. And in 1653 a kind of "rump parliament" with both Dutch and English delegates met here to protest against unfair laws involving colonists. Here court was held, and the first sessions of the public school. In front stood the instruments of punishment: cage, whipping post, and "wooden horse," while in back was a neat little cabbage garden tended by the city jailer.

But the Dutchman was a born trader, and the possibilities of quick profits in the beaver trade lured him from the land. Few farms were bigger than was needed for sustenance.

In 1635 it so happened that a handful of Virginians who had installed themselves in Fort Nassau on the Delaware, which the Dutch had abandoned, were captured and brought to New Amsterdam. Some of them liked the little Dutch town so well they decided to stay on after their release from prison, and, to keep body and soul together, they began planting tobacco. Soon they had imitators, and before long tobacco fields flourished near the site of the present City Hall. In Holland this tobacco was declared to be as good as that from Virginia, and so many colonists wanted to plant it, to the neglect of every other crop, that the West India Company was obliged to order that an equivalent amount of grain be cultivated. This punctured the tobacco boom, which might have had a far-reaching effect on the fortunes of the colony if the New Netherlanders had been less tractable.

### TRANSPORTATION

The water was the New Netherlander's highway, as it was with the first settlers of every nation. For sailing the broad reaches of the Hudson the same "yachts" and *vlie-booten* were used that had carried the colonists across the ocean. *Vlie-booten* were small, sturdy, two-masted vessels, of from sixty to a hundred tons burthen, specially designed for use in the Vlie channel in Holland. The English, watching them skim along the water, found it easier to call them "fly-boats." In 1631 the citizens of New Amsterdam surprised the world by building an eight-hundred-ton merchantman, with thirty cannon to protect her against buccaneers. Two centuries were to elapse before another ship as large was built in America.

The water was also a convenient highway for journeys nearer to home. Little sloops crisscrossed the surface of the harbor and sped from landing to landing. It was in sloops and rowboats that the farmers higher up the Hudson brought their corn and wheat to the mills to be ground. Except in the coldest part of the winter, sloops carried letters and packages, transmitted by the ship masters out of the kindness of their hearts. The same was true of letters sent to Holland in the larger vessels. But when goods were sent across the sea, it was customary to give a small part of them to the captain as remuneration. When one colonist, for instance, sent a number of young sassafras trees in tubs to his friends in Holland, the captain received one of the tubs by way of payment.

By the middle of the seventeenth century, traffic between New Amsterdam and the village of Brooklyn had swollen to such a volume that a ferry was provided. The prospective passenger would go to Peck's slip, take the ferryman's horn from the tree where it hung, and blow it. Presently farmer Cornelis Dircksen would appear—for he was the ferryman—and row the passenger

across to the opposite landing. The fare was three stivers, or about six cents, payable in wampum.

Shortly after the middle of the century a swampy stretch of ground where Broad Street is now, was drained, and a ditch was built, lined with planks to



THE HALF MOON

Called a "yacht" by the Netherlands, the *Half Moon* was a chunky, awkward, but seaworthy vessel of about eighty tons, steep and sheer fore and aft, with a high forecastle and a high stern transom. On the taffrail above the arms of Amsterdam was painted a crescent moon in a blue sky.

A crew of twenty sufficed to navigate the craft.

protect the earth from the tide which ebbled and flowed from the East River. Indians paddled their canoes up it, bringing corn and tobacco to trade for rum and blankets, and here came the Long Island farmer with fresh vegetables and fruit to barter for tools, clothes, and beer. And here the annual "Kermis" was held. The burghers got into the habit of stopping on the bridge to talk business; as time went on they fixed Friday morning as a regular meeting time, thus establishing the first Exchange in the city.

Within the confines of New Amsterdam narrow lanes were formed by

persons walking back and forth from their *bouweries*; a couple of streets were paved with cobblestones shortly after the middle of the century. Somewhat earlier, an attempt at road improvement in Brooklyn was made, as the following ordinance attests:

"Att an assemblie of ye inhabitants of ye town it was ordered and agreed unto that every inhabitant who is possessed of a lott shall be ready to go by ye blowing of ye horn on Thursday next to clear ye common ways upon ye penaltie of two guilders for everyone yt is defective."

Under the circumstances it was not surprising that little use was found for the typical Dutch wagon, with its white covers, and heavy solid wheels, which were simply cross sections of trees. It was much like the more famous type, the magnificent Conestoga wagons of the Pennsylvania Germans, so familiar a century later. No carriages were built by the New Netherlanders. If a man wanted to go a long distance, he walked or rode. Women, when they traveled at all, rode on pillions, behind the men.

When the rivers, swamps, and canals froze over, the New Netherlanders wrapped themselves up warmly and went about in sleighs, the first used by the white man on this continent. The New Englanders, truth to tell, copied them from the Dutch. And the hiss of skates on ice became a familiar sound, for skating was the favorite pastime of the Netherlanders in winter. Men, women, and children all took part, and it was not uncommon to see a burly *goede vrouw* skating along with a market basket on her head.

## INDUSTRY

There was at least one spinning wheel in every home, and the great loom usually stood at the back of the long, sloping roof. Rarely was either still. All the women worked; even the children were set to spinning and carding, and the maids had been taught both carding and weaving by the housewife, who reserved for herself the spinning of the fine flax. A girl was hardly considered marriageable until her dower chest was bursting with the nicely bleached linen she had prepared with her own hands.

The housewife also kept a careful eye on every other branch of household industry. She supervised the cooking, and made toothsome pastries and preserves, distilled perfumes and concocted medicines from the plants in their gardens. And she learned from the squaws to color gowns and petticoats with dyes made from bark.

Your burgher was equally industrious. The settlement that was to grow into the greatest mercantile city in the world was founded on trade. The beaver played the same role in New Netherland as tobacco in Virginia. It appeared on the coat of arms and the flag of the colony, and Beaver Street still exists in downtown New York to remind us of its importance. Beaver skins in the early days were a kind of currency, just as tobacco was in the South, corn in New England, and hides in California. A "Kas" would be valued at so many beavers; a dress, at so many. The West India Company

had established a monopoly of the fur trade, but it was often possible to pick up valuable furs in private deals with employees at the company warehouse. And *Bosch-lopers*, or woods runners (the name is similar to that of the French traders, the *coureurs de bois*), taking advantage of the fact that the Indians were surfeited with glass beads and colored cloth, would trade muskets and ammunition for the precious furs which they sold privately to the patroons and wealthy merchants of the colony.

The Indians had their own form of exchange, but the clever Dutch here too succeeded in pulling the wool over their eyes, by cornering the wampum



NEW AMSTERDAM WINDMILL

Very important at a time when water was not utilized for power, were the windmills of New Amsterdam. And they were partly responsible for its prosperity.

market. On Long Island they had a limitless supply of shells, and by using steel tools they were able to turn out wampum on a mass production basis. They even foisted it on the New England settlers who disliked it so much that they called it "the devil's currency." This, however, did not prevent the Yankees from turning out a rough, unpolished, and badly strung wampum of their own, which by the middle of the century glutted the market.

Like Holland, New Netherland had its own canals and windmills. There were three windmills near the fort and several sawmills on a brook on the



east side of Manhattan which came to be known as Saw Mill Creek. The giant sails of the big mill built on one of the Company's farms between what is now Liberty and Cortlandt Streets remained a landmark for the better part of a century. The position of the arms; whether they were fully covered by the sails or not; and whether the upper half of the mill door was open or closed, were all part of a code. Set square, for instance, the sails of the mill indicated the approach of an enemy. The Indians, who crushed their corn between two stones, were much puzzled by these mills and thought of them as great monsters with long waving arms, who mashed the corn with their giant teeth.

The characteristic brick used in city houses came from the clay in the hills about Albany, and was fired in the kilns set up by the patroon. Schoolboys were more than willing to "turn and spat" in return for the privilege of swimming in the flooded pits. One way of softening the clay in the pits was to drive a herd of cows back and forth through the clay bed.

Tanning was an important industry. In the early days there were many tanning vats in the neighborhood of what is now Exchange Place, some of them owned by leading citizens. As the town grew, the tanners were driven to the borders of the "Fresh Water Pond" and "Beekman's Swamp." In pre-Revolutionary days small boys used to stage battles in the accumulated piles of tan bark, using old cow horns as weapons. The great leather warehouses are still located in this part of New York.

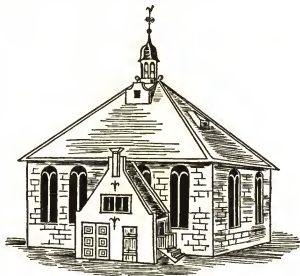
## LIFE IN THE COMMUNITY

The earliest traders had no intention of remaining in the New World, and so a dozen years went by before a schoolmaster was sent out from Holland. In 1638, when Governor Kieft took charge of the colony, the population was still made up to a considerable extent of farmers, tradesmen, tapsters, and artisans, not to mention shiftless sailors and longshoremen, many of whom could neither read nor write. And up to the middle of the century, the sons of the wealthier burghers were sent to school in New England. Books, too, were rare in the early days, except for massive Bibles and psalm-books, in curious old type, with thick covers, and heavy metal corners and clasps.

Although tolerant from a religious point of view, the Dutch were practical, and took no chances on anyone's missing church. The sexton went from house to house, rapping on the door with his ivory-headed cane, and calling out "Church time! Church time!" The pulpit was high above the congregation, and when the clerk wanted to communicate with the dominie he stuck a message into the split end of a bamboo pole, and passed it up to him. And no chances were taken of anyone's missing the offertory, either. Attached to the money bag, which was also at the end of a long pole, was a bell, to waken anyone who might have dozed off during the dominie's discourse.

Life in New Amsterdam was not without its dangers. The first roofs were of thatch, chimneys of wood, and any casual spark might set a house on fire.

Steps were taken to meet such emergencies. When the pulse-quicken- ing cry of "Brant! Brant!" (fire!) echoed through the streets, every citizen ran to the back step of his house, where hung a row of leather buckets. Stringing them on a pole, he ran to the pump, where he had to wait his turn to fill them. Then a line was formed and the buckets were passed from hand to hand.



A DUTCH CHURCH

The colonists brought with them a deep attachment to religion. This quaint little Reformed Protestant Dutch church in Albany was no doubt one of the earliest on the eastern seaboard. In addition to the pulpit, a few pews for magistrates and deacons, it is said to have contained no more than nine benches for the congregation.

Meanwhile, of course, the house might well have burned to a cinder. Next day the piled-up buckets were identified by means of the owner's initials, and returned. Some New York families of Knickerbocker ancestry still have a few of those venerable buckets in their possession.

Danger of another sort was responsible for one of the city's historic landmarks. When the Dutch and the English went to war with each other in 1652, the peaceable citizens of New Amsterdam had cause for alarm. The fort was inadequate and in a state of disrepair. Besides, what was to prevent the attackers landing on Manhattan Island above the city limits? So in the following year a stalwart palisade, with breastworks inside it, was thrown up. It was, fortunately, never put to the test, but it gave its name to what later became one of the famous thoroughfares of the world: Wall Street.

The name Bowling Green survives to remind us that your burgher enjoyed his game of bowls. He was also fond of racing on the river in white-winged

sloops in the summer and in sleighs and on skates in winter. So enthusiastic were the burghers about a game called "tick-tack-bort"—which resembled backgammon—that they stayed home from church to play it, until expressly



A FIRE BUCKET

Long after the days of the Dutch, the householders of New York kept leather buckets in case of fire. Marked with the name or the initials of the owner, they could be retrieved after the conflagration was extinguished. Proud are the Knickerbocker families which have kept some of these buckets as heirlooms.

forbidden to do so by an ordinance of 1656. In the taverns, backgammon, chess, billiards and cards were all popular, although in the better class homes cards and billiards were frowned on. Cards were decorated with crudely sketched, hand-colored figures. There were seventy-three cards to the pack, which boasted no Queen, her place being taken by a Cavalier, who, with a "knecht," or hired man, attended the King.

Santa Claus (St. Nicholas) did not come to the little Dutch boys and girls at Christmas time, but on his own feast day, which was December sixth. On St. Nicholas' eve a sheet was spread on the floor; the children gathered about it and sang verses to him until the door was flung open and a shower of cakes and candies landed on the sheet. Then St. Nick himself came in, with a bag overflowing with presents. He was accompanied by his servant "Black Ruprecht," who carried a bundle of switches with which to give the bad children a sound beating, and an empty sack in which to take the worst ones away.

On New Year's Day the houses were scrubbed until they were even more spic and span than usual. The housewife spent the morning with her sleeves rolled up, supervising the preparation of all kinds of delicious cakes and pastries, and the decanting of fine wines. Then she put on her best clothes and

sat in the best parlor to receive the calls of her close friends, who had also arrayed themselves in their most sumptuous attire.

At Easter, which was called "Paas," little boys and girls hunted for colored eggs, just as they do in America today. More typically Dutch, and a tribute to their natural prankishness, was the holiday of "Pinkster." It came the seventh week after Easter, when trees and flowers were blooming, and the children gathered branches heavy with blossoms, sprinkled them generously with water, and hung them over doorways so that slug-a-beds, on opening their doors, would be surprised with a drenching.

Family life revolved about the hearth. "The fireplaces were of a truly patriarchal magnitude," says Washington Irving in his *History of New York*, "—where the whole family, old and young, master and servant, black and white, nay, even the very cat and dog, enjoyed a community of privilege, and each had a right to a corner." While mother and daughter plied the needle, father would puff on his clay pipe, and sometimes for the benefit of the children launch out into an explanation of the incidents illustrated in the pink and white and blue and white delft ware tiles adorning the fireplace. On rarer occasions, he would perform a little play for their particular delectation. He would paint eyes, nose, and mouth, on his thumb, middle and little fingers, which played the roles respectively of a dame, a friar, and a maidservant. Dame Thumb was supposed to be seated in her best parlor, cap on head, kerchief and "specs" on nose, while the friar stood on the stoop outside the front door—formed by placing together the tips of ring finger and forefinger. "Tap, tap at the door!" the father would growl, as the friar was supposed to rap. Then he would take a wee, nasal voice for the maid, then a simpering lisp for the dame. After a conversation which could be prolonged indefinitely depending on the degree to which the children enjoyed it, the friar was brought into the house by ducking the middle finger under the tip of the forefinger. This was the climax to the play, and always drew a storm of applause.



## CHAPTER IV

### THE ENGLISH: The Cavaliers in the Old Dominion

#### INTRODUCTORY

ON THE North American continent, Indian, Spaniard, Frenchman, and Netherlander were all to be superseded by another race and another culture—the Anglo-Saxon. Yet the first attempts of the English to gain a foothold here were hardly impressive. On Roanoke Island, Sir Walter Raleigh's settlement tragically perished. On the James River, his compatriots sent out by the London Company almost suffered a similar fate. It was not until after several years of struggle that fortune favored them—in an unexpected way.

It was gold they had come for. To the Englishmen of that day, who watched with envious eyes the galleons sailing back across the Atlantic to Spain, laden with mineral treasure, there was little difference between North, Central, and South America. To them America meant one thing, and that was gold.

"Why, man, all their dripping pans . . . are pure gould," exclaimed, not without irony, a character in a play acted before James I in 1614. He was speaking of Virginia. ". . . and all the chaines with which they chaine up their streets are massie gould; all the prisoners they take are fettered in golde . . ."

For many years after the founding of Jamestown, the mention of gold must have made every Virginia colonist wince. The fabulous mineral wealth turned out to be all a dream. In place of chunks of gold ready to be picked up, there were hundred of trees to be felled and dragged away, so as to clear the land for planting.

But these acres, cleared after such arduous efforts, were soon nourishing the leafy tobacco plant that was to bring the colonists prosperity. Few then could have foreseen that within a hundred years a vast fleet would be required to take the annual tobacco harvest across the sea to the Old World.

Tobacco was a crop which required extended acreage. It could most conveniently be grown on large estates, and who could better manage such estates than people who had done the like in England? Thus was the foundation laid for a new class of Americans—a class apart from the traders, small farmers, and indentured servants. The cleavage became more marked when Cromwell's Rebellion sent hundreds of aristocrats to Virginia, and when, at the other end

of the social scale, slaves began to be imported from Africa. So the seventeenth century in Virginia saw the gradual beginnings of a more or less feudal aristocracy whose way of life was later to weave itself into the American background, and which was eventually to supply a new breed of statesmen, fortified in the spirit of independence by the tobacco revenues, and trained in leadership by the problems of estate management.

## HOUSES

When the little band of colonists landed on the bank of the James in 1607, their first thought was to protect themselves from what Captain John Smith called the "salvages." Within a month they had built a triangular enclosure of sturdy eight-foot poles, with half-moon shaped bulwarks at each corner in which they mounted their four or five pieces of artillery. Not long after, Captain Smith notes in *The generall historie of Virginia*, "By a mischance our Fort was burned, and the most of our aparell, lodging and private provision." This seems to have been a common fate of early forts, for the first fort or "general rendezvose" of the Pilgrims when they settled in Plymouth thirteen years later also "by casulty fell afire."

The church was as primitive as the fort itself. For some time the Virginia settlers used a tent, until, in the words of Smith, "Wee built a homely thing like a barne, set upon Cratchets [crotchets, posts with a forked top] covered with rafts, sedge, and earth . . . the best of our houses could neither well defend [from] wind nor raine."

But since the first group sent out by the London Company was not selected with an end in view of making good colonists, it is not surprising that little real work was done. Most of the effort of making the aristocrats roll up their sleeves and go to work devolved upon Captain Smith. Without him it is doubtful whether the colony could have survived its first two years. He writes that four months after landing "we had no houses to cover us, our Tents were rotten and our cabins worse than nought."

Ingenious methods of persuasion were used, and when the gentlemen objected in no uncertain terms to the blisters raised on their delicate hands by the unaccustomed rub of the ax-helves, it was ordered that every oath should be numbered. When the work of the day was over, for each oath a can of water was poured down the sleeve of the person who had been guilty of uttering it. By the end of the year, the settlers, "understanding our miserie, a little ceased their malice, grudging, and muttering," and had succeeded in putting up a few poorly built wooden homes, a church, and a storehouse. But these buildings were of flimsy materials badly put together. They could not withstand the dampness of the Virginia climate, and had to be continually repaired.

For this reason, when Sir Thomas Dale in 1611 built the new town of Henrico, near what is now Richmond, he had kilns set up, and the foundations and first floor walls of some of the houses were built of brick. There is no





*Reproduced through the courtesy of Harry T. Peters, Esq.*

#### FOX HUNTING, AMERICAN STYLE

On the cover of an old French song published in Philadelphia is a woodcut which is probably the only contemporary picture of fox hunting in America in the seventeenth century. In England, the riders would have been dressed more formally. But the early settlers lacked the means for indulging in finery. Even the horses were small and woolly.



evidence of English brick being used. (In fact the bricks of a farmhouse built near Smithfield in 1630 have the footprints of dogs and chickens on them, evidently made while they were still soft—an indication that the bricks themselves must have been made on the farm.) Plenty of bricks were made in Virginia, and made more cheaply than in England, so the English authorities in January 1639 arbitrarily instructed Governor Wyatt "to require every land owner whose plantation was five hundred acres in extent [and proportionally for larger or lesser grants] to erect a dwelling house of brick, to be twenty-four feet in length, and fifteen feet in breadth, with a cellar attached." The colonists shrugged their shoulders and went on making their houses of wood, as did the majority of householders everywhere along the coast all during the colonial period.

And the damp continued its deadly work. There is probably not a wooden house standing in Virginia today which can be proved to have been built in the seventeenth century. Yet the vogue for wooden houses has persisted in the South until this day.

The planter's dwelling was known as the "Great House," "Manor House," or "Mansion,"—these appellations were current in England, and were not, therefore, coined by the slaves, as is often assumed. But the average home was less pretentious than the name might suggest.

It resembled the more modest English manor houses of Tudor days and ran fairly true to type. A simple frame building of roughly hewn logs, ordinarily set on sills which rested on the ground, it formed a rectangle from twenty to forty feet in length on the long side, from fifteen to thirty on the short. At each end of the house was a big outside chimney of stone or log-and-clay. The front door was in the middle of the long side, opening as in English manor houses, on a hall, or "Great Room," where the family lived and ate.

The house was commonly of the two-story and dormer type, with about six rooms, but some of the early ones were of the one-story and dormer type, with no more than a hall and dining room, bed chamber and kitchen. One house, for instance, had three rooms on the lower floor, described as "best," "outward," and "lodging." On the upper floor there were only two, the "best room" and the "north room." The house of Mrs. Digges, of York, had a "yellow room," and a "red room," in accordance with a pleasant old English custom which still survives in many American homes, including the White House.

Typical of these old manor houses was that belonging to Adam Thoroughgood at Hampton, probably built as long ago as 1636, but still in good repair, since it was made of brick. Less typical, perhaps, were the elaborate precautions taken for protection against the "salvages," of whom the Thoroughgoods seemed to live in constant dread. The house was fitted with double walls inside which the family could hide, and the upper rooms had little square openings through which muskets might be fired. As if this were not enough,

the thorough Thoroughgoods had arranged a secret passageway through a closet into the cellar, from which they could step into a boat and flee across the bay.

The undressed logs forming the frame of these earlier wooden houses were held together with wooden pins. Nails were so rare and valuable that they were hoarded, and left to descendants in wills. In fact, when a family abandoned a house, they would often burn it down simply to get the nails, and they



THE ADAM THOROUGHGOOD HOUSE

Because, unlike most houses of the period, it was built of brick instead of wood, the Adam Thoroughgood House has outlived three centuries, and is believed to be the oldest dwelling now standing in Virginia. Of greater width than depth, flanked by an outside chimney, it closely resembles a small manor house of Tudor days. Almost all seventeenth-century Virginia homes followed this design.

were only dissuaded from doing so when the authorities promised to give them as many nails as there might be in the house provided they would leave it intact.

The partitions in the typical house were covered with a thick layer of dried mud, which had been "daubed and white limed, glazed and flowered." The steep-pitched roof was covered with cypress shingles, and had attractive long, dormer windows with sharp-peaked gables. Windows were glazed, with small panes set in lead and sometimes protected by shutters "which are made very pretty and convenient."

These houses with their large front doors opening on the "Great Room," and their outside chimneys, were in design the exact opposite of New England houses, which were built around the fireplace, like a person huddled up to keep out the cold. The entry or stair hall was as narrow as possible so that wind and snow wouldn't blow in with the entering guest. But suppose there

were no cold to fear? Then the entrance hall could be large, the chimneys could be placed on the outside.

And in a temperate climate like that of Virginia, where few minded going out of doors in winter, the kitchen could even be made into a separate house. So could the rooms of the indentured servants and slaves, and any rooms devoted to household industries. In this way the planter's house gradually became the nucleus of what was essentially a little village, sufficient unto itself.

It must not be inferred, however, that the seventeenth-century tobacco planter lived like a lord. Until the importation of great numbers of slaves at the end of the century, the colony was dotted with holdings of only a few hundred acres each, worked by sturdy English yeomen. Feudal though it may have been, the style in which the typical planter lived was essentially simple. As has been shown, his house was hardly pretentious, and his servants were for the most part ragged, lazy, and inefficient.

When his tobacco brought him a profit, he ordered many of his necessities and all of his luxuries from England, and only when it didn't would he consent to take an interest in having things made at home. Often in debt, and often unable to afford travel, he found his chief distraction in extending an ungrudging hospitality to visitors.

Little by little, planters and plantations began to prosper. The houses grew larger and, with their numerous outbuildings, foreshadowed the magnificence of the next century. Imagine the number of shelters, shops, storehouses, stables and sties required by a colonist of the type of Samuel Mathews, who lived up the James River from Newport News in the middle of the century. According to an anonymous pamphlet of the period published in London, he was known to his neighbors as a man who "lives bravely, keeps a good house, and is a true lover of Virginia. He hath a fine house, and all things answerable to it; he sows yearly store of hemp and flax, and causes it to be spun; he keeps weavers, and hath a tan house, causes leather to be dressed, hath eight shoemakers employed in their trade, hath forty negro servants, brings them up to trades in his house; he yearly sows abundance of wheat, barley, etc., the wheat he selleth at four shillings the bushel, kills stores of beeves, and sells them to victual the ships when they come thither; hath abundance of kine, a brave dairy, swine great store, and poultry."

## FURNITURE

"Item. I give and bequeath unto my eldest son John," wrote Colonel Richard Lee of Virginia in 1663, "three islands lying in the Bay of Chesapeake; the great new bed that I brought over in the Duke of York, and the furniture thereto belonging."

The good Colonel was following a time-honored custom according to which the best bed was left to one's nearest relative; the second best bed, to a close

friend. And even before this day, when the settlers, preoccupied with the bitter struggle for existence, had little thought for furnishings and decoration, they insisted on getting a good night's sleep in a massive four-poster, complete with curtains and tester.

The reason was not far to seek. In the English homes they had left behind them, there were few corridors. Rooms opened directly onto one another, affording little privacy and plenty of drafts. So what did you do? You got into your four-poster and pulled the heavy curtains, and there you were in a little bedroom of your own. And that is one reason why the seventeenth century has been called "the century of magnificent beds."

Next in importance was that useful article, the chest. Every bedroom boasted one, for it served much the same purpose that closets do today. Some had no other ornament than the initials of the owner; some were bound with iron; others richly carved. A few stood on short legs which might be curved or carved as well. As late as the end of the century, when another Colonel, Fitzhugh, sent to London for some silver plate, he was careful to stipulate that it should be packed in chests, because of their great usefulness.

Some of the articles of furniture that nowadays most readily suggest themselves to our minds were in those days either virtually nonexistent, or extremely elementary. There would be a long table for eating purposes in the Great Hall, for instance, but it was little more than a few boards laid across trestles. Only the master of the house, or perhaps a distinguished guest, was entitled to use a chair, which was a heavy, impressive affair of paneled oak, with a solid wooden seat. Stools, and forms, as benches were then called, were the seats of everyday life.

In the second half of the century a certain amount of comfort began to creep in, and the cumbersome "wainscot" chairs gave way to those of more slender and graceful design. Arms, legs, crosspieces (between the legs, near the floor), the seats and sometimes the backs as well, were ornamented with scrolls or spirals. For a long time such chairs were upholstered in Russian leather, green being the most fashionable color—and the Virginians prided themselves on keeping up with the latest fashions. Popular for many years was "turkey-work," which imitated the bright colors and patterns of the Orient. It was used not only for the seats of chairs, but also for table covers, then known as "carpets," and for cushions. Sometimes—but this was a luxury—it was used for small rugs beside beds. Edward Digges, of York, listed in the inventory of his furnishings in 1692, two turkey-work carpets, nine turkey-work chairs, and a turkey-work couch.

No longer was the dining table alone in solitary dignity. Small tables began to appear. Some were known as "flap tables" since they had flaps, or leaves, which could be let down when the table was not in use. One particularly attractive type was oval, with two flaps, and an extra leg that swung out on

either side when the flaps were up, like a gate. And so these came to be known as "gate-leg tables." The extra legs, usually taking the form of beautifully turned spirals or turned with knobs like the legs of Stuart chairs, were highly decorative.

In the early part of the century, the dining table boasted almost no china, and of silver, no more than a tankard or two. There were wooden trenchers, however, and plates, dishes, porringers, and drinking vessels of pewter. Although wooden and pewter spoons were common, knives and forks were rare.



A FLAP TABLE

Some of the small tables which began to make their appearance as homes grew more comfortable, had flaps, or leaves, which could be let down when the table was not in use.

They were regarded as personal property by their lucky owners. When faced with a recalcitrant piece of meat, no man hesitated to take his knife out of his pocket and use it.

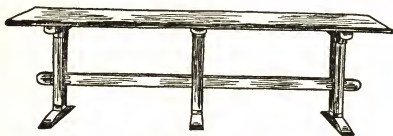
As an example of the simplicity of the household furnishings of the seventeenth-century planters, consider the inventory of Thomas Deacon, made in 1647. By contemporary Virginia standards Thomas was a relatively rich man, yet he lived in a two-room house, and the following list gives the sum total of his household possessions, valued in pounds of tobacco :

In the Hall		lbs.
1	long framed table and forme and a stript carpet	200
1	short framed table and one low forme and carpet, one old cort cubbert and small carpet	100
1	long wainscot settle and wainscot chear an old turned couch 4 old joynt stools and trundle bedstead	200

## In the Chamber

1 frame table and carpet, a framed couch and old cort cubbert and a carpet and very old chair	200
Four old chests, two old trunks, 5 old cases and 2 small boxes	200
2 feather beds and appurtenances in old curtains vallenge	500
2 old bedsteads 3 old certians and vallenge one couch flock bed another couch bed of cattails and 2 old coverings, a frame table and form	350
(dishes, plates, spoons, plate, etc.)	400
(cooking utensils, etc.)	900
(pans, Kettles, Andirons, tools, etc.)	1000

In the prosperous days of the latter part of the century the wealthier planters bought more and more silver, not only because they liked it, but also



A TRESTLE TABLE

The tables off which our earliest ancestors ate, consisted of long, narrow "boards" resting on trestles when in use, as in the days of the Normans. The one here depicted, dating from 1650, is a twelve-foot pine plank resting on a three-part understructure which is connected by a single oak stretcher.

because it was considered a safe investment. Forks and table knives were now more commonly used. Spoons, dishes, plates, "hand wash bowls," tankards, candlesticks, and candle snuffers were all made of silver, and were often engraved with the arms of the owner.

The tablecloth for everyday use was of Holland linen, and on special occasions, of damask. Napkins, often of excellent quality and beautifully embroidered, there were aplenty. In fact, good linen was the pride of the Virginia housewife. And she took care that the big beds lacked nothing: sheets, blankets, pillows, damask curtains, and imported quilts. An item that was seldom overlooked was mosquito netting, for the mosquitoes of the region, which apparently had no taste whatever for the flesh of the red man, had discovered that the flesh of the English was particularly toothsome.

The massive four-posters, with their fine linen, must have looked incongru-

ous in those early bedrooms, furnished in monastic simplicity with ewer and basin, chest, and looking glass. Animal skins, or perhaps turkey carpets covered the ill-made floor. But however simple he was forced by circumstances to be, your Virginian, unlike the typical Puritan, was concerned with his appearance. As time went on there were mirrors, "chimney-glasses," and "great looking glasses" in every room.

The candles which threw their fitful gleam upon the walls were of tallow, or suet, of myrtleberry or bayberry wax, which was cheap, and gave forth a bright light and a pleasant odor. Before the company arrived, the candles would be lighted and then snuffed out, to spread the fragrance.

If they had been so minded the colonists could have made their own furniture from the oak, cypress, maple, walnut, cedar, and other woods which grew close at hand. Inventories do occasionally mention "Virginia tables" and "Virginia-made bedsteads." But it was the custom to order furniture from England, although the industrious Dutch traders from New Amsterdam, despite the efforts of the authorities to keep them out, succeeded in introducing many a fine old Dutch piece of furniture, including, by the way, the first card tables. And when New England, toward the end of the century, began to develop cabinetmakers of its own, sailing vessels brought furniture down from the North. Too, the products of Indian handicraft such as baskets and matting now began to turn up in early inventories.

## CLOTHES

When Sir Walter Raleigh inquired of the Indians the name of the country he was visiting, the answer was "Wingan-da-coa." For a time this was thought to be the Indian name of what is now North Carolina, but as Raleigh's men became more familiar with the Indian language of the region, so the story goes, they discovered it meant: "What pretty clothes you wear!"

And in truth, the gentlemen who colonized Virginia, in contrast to the dour yeomen of New England, were sumptuously attired. Anyone who considered himself a gentleman in the days of James I wore a velvet or broadcloth doublet with gilt or silver buttons, and heavily padded breeches of the same material. Sleeves were full, and slashed to show a shirt of finest Holland linen. Collar and cuffs were of lace or starched linen, and silk stockings were held up by garters tied with a bow at the side. The gentleman's felt hat sported a rich band and a plume.

Equally elegant was his lady. When ready to put in an appearance, she was garbed in an overdress of satin and heavy silk, parted or looped up in front to disclose an elaborate petticoat. She also wore a starched ruff and cuffs of stiff lace, and a white linen coif. Both overdress and petticoat were held out by means of a modified "farthingale"—a large hoop worn round the hips. (The word has come down to us in the farthingale, or strap, which goes around a

horse's rump.) Men's padded breeches, on account of their similarity to the skirt held out in this way, were known as "farthingale breeches."

In the reign of King Charles I, the government of the Colony was largely left to the Assembly, which met in the church at Jamestown, thereby providing the planters and their wives with a greatly sought-after opportunity to show how carefully they followed the latest London fashions. Governor and council would be seen in coats trimmed with gold lace; the burgesses—wearing their hats in imitation of the custom of the House of Commons—in starched ruffs and silk or velvet doublets with large slashed sleeves.



THE FARTHINGALE

Still in fashion up to about the beginning of the second quarter of the seventeenth century, the farthingale was a roll of pleated material stuffed with hair and worn just below the waistline to hold out the petticoat and dress.

Lord Delaware, attending church in Johnstown, surrounded himself with a guard of some fifty halberdiers in scarlet livery.

The costume of a courtier in this period has been immortalized by Vandyke. Collars were covered by "falling bands" of rich lace, known as "picadilles." Piccadilly Street in London got its name from the shop where they were made. Wide boots were worn, ruffed with lace, and broad beaver hats, decorated with a plume. A rapier hung from an ornate baldric worn over the right shoulder. The hair was worn long, the beard peaked. And the mustaches pointed skywards.

Men were not above wearing stays, and a fop might go so far as to sport a lovelock—a single lock of hair allowed to grow long, carefully curled, and sometimes tied with a ribbon which had been donated by the lady of his heart. Sometimes he even wore one tiny diamond earring.

After the execution of Charles the First in 1649 there was an influx of cavaliers with curling locks falling to their shoulders. Deep, oblong collars, and cravats trimmed with rich lace had by now taken the place of ruffs and falling bands.

Milady's clothes, meanwhile, were becoming simpler. The disfiguring farthingale disappeared. Dresses were cut low at the neck and trimmed with



fine muslin or lace. But this demureness by no means meant that she did not take care to protect her elegant person. She liked to wear long embroidered gauntlets, and out-of-doors to shield her complexion from the elements with



A CAVALIER



THE CAVALIER'S LADY

In Cavalier days a gentleman would wear a short-waisted doublet. Sleeves were slashed. The linen collar was edged with lace. Soft, broad-brimmed hat and plumes were an integral part of the costume. The Cavalier's lady would wear bodice and skirt of the same material, often rich silk or velvet and brocade. The tightly laced, long-waisted bodice was richly trimmed with lace; the skirt fell in heavy folds. While the over-dress was almost always worn, some contemporary portraits show a wide, full skirt like this one. As time progressed, it became a mark of elegance to reveal more of the neck and shoulders, which, before long, were left bare.

a mask, usually of velvet. Our contemporary expression "barefaced" probably has its origin in the fact that in seventeenth-century England it was considered immodest for a lady to appear without a mask.

In the 1670's your well-to-do planter might appear in coat and breeches of olive plush or dark red broadcloth; embroidered waistcoat, blue holland shirt, long silk stockings, silver buttons and shoe buckles. Around neck and wrists he might wear lace ruffles; and on his head, a flowing white wig. His lady

might appear in a bright-colored satin bodice trimmed with point lace, and a "tabby" petticoat-skirt, so-called from the richly flowered, watered silk imported from faraway Bagdad, where it was sold in the "Attibaya" quarter.

Such finery, however, was usually reserved for Church or Assembly; on ordinary days many a planter dressed as the workingman did in a suit of canvas or frieze (rough woolen cloth with the nap on one side only) or rough blue homespun.



POCAHONTAS

When Pocahontas—Mistress Rolfe—went to England to be presented at Court, she wore this somewhat mannish, high-peaked hat and the point lace cuffs and stiffly starched ruff characteristic of Elizabethan days. Observe the wings worn at the shoulders where the close-fitting sleeves meet the bodice.

It was not unusual for working people to make a killing in tobacco, and as early as 1617 the complaint was recorded: "our cowekeeper here of James Citty on Sundays goes accowtered all in freshe flaming silke, and a wife of one that in England had professed the black arte, not of a scholer, but of a collier of Croydon, weares her rough beaver hatt with a faire perle hatband and a silken suite thereto correspondent."

Military costume, in the early days, did not differ much from what was

usually worn. When the doughty John Smith went out to capture the King of the Pamunkey Indians, the only change he made was to put a buff jerkin or sleeveless leather jacket over his doublet as a protection against arrows. But after the terrible Indian massacre of 1622 even jerkins seemed insufficient, and the colonists wrote to King James for armor. Presently the gentlemen of Virginia were to be seen tramping the roof of Jamestown fort in the most singular accoutrements, often dipping into a store of "100 brigantines, 40



THE GARB OF THE SOLDIER

When warriors like John Smith went out to fight, they simply added a sleeveless leather jacket, known as a "buff jerkin," and leather gloves, to the usual costume, which included the familiar high-crowned hat, and ruff. Padded breeches were a protection against sword thrusts and arrows.

plate coats, 400 shirts and coats of mail, 200 skulls of iron, 1,000 halberds and 'brown bills' [combined sword and battleax], and 50 'murdering pieces.' Those arms came from the Tower of London and most of them dated from the time of James the Third.

The Indians, to put it mildly, were puzzled. A shipment of forty barrels of gunpowder had fallen into their hands, which they promptly sowed, "expecting a large crop of it in the summer." As for the armor and the "murdering pieces," in the words of Captain Smith, they "mutche wondered thereatt . . . especyally thatt they did not see any of our men fall as they had

donne in other conflicts. Whereupon they did fall into exorcisms, conjurations and charmes," to cause rain to fall and extinguish the armed men's "matches," or pieces of slow-burning wick used in firing guns.



#### WHAT THE CHILDREN WORE

Little boys wore long coats until they were seven. Then they graduated into breeches and dressed exactly like their fathers. Little girls wore tabby petticoats right down to their toes, which were encased in red shoes with silver buckles. They wore lace collars and caps, and looked like grown-up women in miniature.

#### FOOD

"Virginia doth afford many excellent vegetables and living Creatures," wrote Captain Smith, and sent home a coop of turkeys to prove it—the first ever seen in England. And before him, Sir Walter Raleigh had declared the soil of the colonies to be "the most plentiful, sweete, fruitful, and wholesome of all the world." Smith's companion, George Percy, wandering in the woods, had found wild strawberries four times bigger than English ones, in addition to such trees as cherry and walnut.

The water yielded its harvest no less than the land. The worthy Captain Smith may not have found a river that led to the Pacific, as he hoped, but he did find one, as he tells it, so full of fish that he tried to catch them with a frying pan. This may be the first American "fish story." On another occasion, stranded on an island, he lived for ten weeks upon oysters. And Percy, one of his companions, scaring some savages away from their fire, found the ashes to be full of roast oysters, most acceptable to the palate. And well they might be. "I have seen some thirteen inches long," he declares; "the salvages used to boile oysters and mussels together and with the broath they make a good spoone meal, thickened with the flower of their wheat; and it is a

great thrift and husbandry with them to hang oysters upon great strings being shauled [shelled] and dried in the smoake, thereby to preserve them all the year." References to oysters a foot long are also found in northern chronicles of this period.

Despite this boasted abundance, and despite the ministrations of Pocahontas, who helped the settlers through their first winter with presents of corn, raccoons, and other game, their situation was precarious. "Though there be fish in the sea, fowls in the air, and beasts in the woods," Captain Smith records, "their bounds are so large, they are so wild, and we so weak and ignorant that we cannot much trouble them."

In the course of the following winter, starvation set in. Rations were reduced to a fifth of a small can of barley soaked in water, per person. There were cases of cannibalism. Out of five hundred inhabitants, all but sixty died before Sir Thomas Gates's ships could arrive with provisions.

## AGRICULTURE

Long before the coming of the white man, tobacco was revered and worshiped by the Indians as a special gift from the Great Spirit. When there was a drought, they cast powdered tobacco on the wind; when there were no fish in the bay, they scattered shredded tobacco on the surface of the water. On ceremonial occasions, the medicine men dropped it over the sacrificial fires. To offer a stranger a pipe meant that the Indian was offering his friendship.

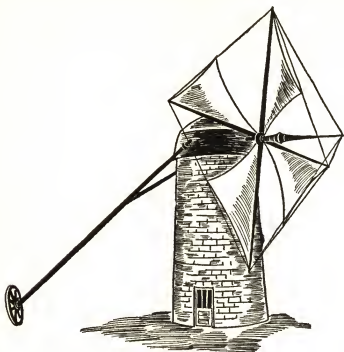
If the English had had the same mystical, poetical, religious approach to everyday things as the Indians, they too might have revered the weed. In any case it was to influence profoundly the way they lived and thought, and to make them wealthy.

Of all gifts bestowed by the New World upon the Old, Lady Nicotine is perhaps the most highly appreciated. Popularized among the courtiers in England by Sir Walter Raleigh, smoking had become widespread among the gentlemen of Elizabethan England. Thousands of pounds were spent every year for tobacco from the Spanish Indies. Presently John Rolfe, the husband of Pocahontas, experimented with tobacco growing in Virginia, and his product, which was declared to be as "strong, sweet and pleasant as any under the sun," found a ready market in the British Isles. In 1617 there sailed the first American tobacco ship bound for England. It was the forerunner of a mighty fleet.

The settlers became infected with a speculative fever. Every available patch was cultivated. The leafy plant even pushed its way up from between the bricks in the streets of Jamestown. Shipwrights, coopers, the minister, even, tried to improve their lot by raising a modest crop.

Other crops began to be neglected, and so, as in New Netherland, ordinances had to be passed making the planting of corn obligatory.

But no mere decree could weaken the hold of tobacco. It even dictated the planter's way of life. The rotation of crops meant nothing to your Virginian. He cleared a piece of land, grew tobacco on it, plowed it without troubling to manure it, and went on to a fresh piece, letting the old one revert to pasture



A TIDEWATER WINDMILL

The first windmill in Tidewater Virginia and, it is claimed, in North America, was built by Governor Yeardley in 1621. It was most likely of the type shown here. Others followed and prospered so well that within a quarter of a century it became necessary to establish a legal scale of grinding charges. The cost of one mill, for which the stones and iron were imported from England, amounted to 21,405 pounds of tobacco. Half of this went to the millwright. The annual profit amounted to about 4,000 pounds of tobacco, and the mill could be paid for in five years.

or young growth of woods. Of course in this way he used ten times as much land as he actually needed, but land was cheap. And so grew up the great estates, under the direction of experienced administrators, who were to find, when the time came, that they were capable of governing a nation.

In the story of tobacco is reflected, in many instances, the story of the struggle for independence. Because it grew rich on tobacco, the Corporation in London eventually felt independent enough to defy the King. Again, when Charles the First wished to enrich himself through a tobacco monopoly, he

appeased the Virginians by recognizing their House of Burgesses. America's first rebellion was staged by Nathaniel Bacon, partly, at least, in resentment over the effect of the Navigation Acts on the tobacco trade. And the first time Patrick Henry distinguished himself as an orator, he was discussing the price of tobacco.

Crop reduction, which was to be such a bone of contention in the twentieth century, had been ordered in the Tidewater region as early as 1621, and in subsequent years. In 1682, when the price of tobacco had fallen so low that crops could no longer be grown at a profit, the Virginia Assembly, having met to call a halt on all tobacco planting, broke up in a furor. Then the desperate populace went from plantation to plantation, ravaging the crops. Each planter, of course, was outraged to have his fields laid waste, but this did not prevent him from joining the mob when he learned that they were going on to the estate of his neighbor. Before the militia was called out and order restored, ten thousand hogsheads had been destroyed.

In addition to tobacco, the colonists owed another important product of the soil to the Indians. When in the spring of 1608 Captain Smith took a couple of Indians prisoner, he sagely set them to work teaching the colonists how to plant corn. But most of the discouraged settlers, sick of the whole idea of founding a colony, traded off their tools to the Indians for staples. And a large part of the crop they did manage to raise despite their handicaps, was devoured in the fields by the starving passengers on the next fleet of ships to arrive from England.

Later, when things were more settled, attempts were made to produce silk. Mulberry trees were found, according to Captain Smith, "growing naturally in prettie groves. There was an assay made to make silke, and surely the wormes prospered excellent well, till the master workeman fell sicke: during which time, they were eaten with rats." Attempts to make silk continued for many years "with great charge and expense and hazard," in order not to have to bring it from Persia and China, to the enrichment of "heathen and Mohammedans." But every time skilled workmen were sent over they were lured into the more profitable occupation of raising tobacco. The same seems to have been true of the Frenchmen sent over to grow vines, for it is recorded that "the vigneroners . . . either did not understand their business or concealed their skill; for they spent their time to other business." They even went so far as to destroy the vineyards.

## TRANSPORTATION

Contemporary accounts of the Assembly meetings in the little gray church at Jamestown offer an object lesson to the student of history for the study of transportation in those early days. Beneath nearly every tree a horse was tied, while on the river's bosom rode sloops and pinnaces, not to mention the fishing boats, and tall-masted ships waiting to take tobacco overseas.

Those who rode from their plantation to the Assembly were in the minority. There were Indian trails, of course, following the riverbanks, or connecting one river with another. But they were so choked with fallen logs that the traveler frequently had to turn off into the thick undergrowth. On long trips, picking his way with difficulty by means of blazed trees, he often got lost, and had to bivouac in the woods until morning. The few bridges were shaky and precarious. The traveler was lucky to find a ford—otherwise he might have to swim his horse across, at the risk of losing the horse or even his own life.



THE ORIGIN OF THE "ROLLING ROAD"

Planters who lived a little distance from the river would roll or push their hogsheads of tobacco to a point where they could be picked up by boat. A better way was to fit the cask with axles and shafts, and let a horse or a yoke of oxen pull it.

From such plantations as were not on the river's banks, the heavy casks of tobacco were rolled, pushed, or hauled. After hundreds of casks had bumped and rumbled their way through the forest from field to wharf the routes they had taken became worn into the semblance of a road. Known as "rolling roads," these were the earliest roads in the country.

Far more natural was it to travel by water. Captain Newport, for whom Newport News may have been named, had hopefully brought over from England a barge which could be taken to pieces and carried around the falls, in which he fondly expected to reach the Pacific. In general, the settlers utilized the tall trees that grew in such profusion for dugouts on the Indian model, or primitive boats of their own making. To make the lurking "salvages" think the party of whites adventuring into the wilds was larger than it really was, travelers would put shields along the sides of the boat, with a line of hats, on poles, showing just above the tops of the shields.

Fishermen who picked up a living in the tidal rivers used a double-ended boat which was crudely put together of hewn logs and carried two masts and



a jib. Shallops were designed like large rowboats, light in draught, and easy to handle in the shallow creeks.

The pinnace, ancestor of the pinky and chebacco boats used by New England fishermen, was also a double-ender, with two masts, and was more of a ship than the shallop. Small enough to use on the rivers, it was seaworthy nevertheless.



THE SHALLOP

After they had left the deep-draft ships in which they had crossed the ocean, the settlers along the James and the shores of Massachusetts Bay built themselves light, open boats fitted with both oars and a sail, of a type easy to handle in shallow water.

Although the maritime center of the colonies was the New England coast, more ships were built in Virginia in the course of the century than might be expected. As early as 1613, Captain Argall had built himself a frigate so that he could sail up the coast and catch fish for the people of Jamestown.

As the social life for which the South is renowned blossomed in the later years of the colony, sailing boats would call at one house after another along the river to pick up their freight of pleasure seekers, headed for a dance at some plantation many miles up the river. Those who rode through the woods from one plantation to the other lost no time. The expression "planter's pace" became proverbial.

In those days, the writing of a letter was no small matter. Paper of fine quality—and paper was expensive—was used, carefully folded to form its own envelope, and fastened with an elaborate seal. The terms in which it was couched, as befitting a man of culture, were equally ceremonious. Family letters, carried on over long periods of time, took the form of journals.

## INDUSTRY

Though as time went on the plantations tended to become self-sufficient, the making of things in the home never reached the importance it did in the North. In Virginia wild flax grew in profusion, and about the middle of the century a plan was set afoot to found schools at Jamestown for teaching little children carding, spinning, and knitting. Each child was to be supplied with six barrels of Indian corn, a pig, two hens, clothing, shoes, a bed, rug, blanket, two coverlets, a wooden tray, and two pewter dishes or cups. This project was abandoned, but as a substitute, prizes of tobacco were given to encourage the spinning of flax. Another early venture was the establishment of glassworks at Jamestown.

And there was good iron ore in Virginia. The London Company spent thousands of pounds to erect an iron works asseverating that the "eyes of God, Angels and men" were fixed upon the enterprise. But they reckoned without the "salvages." In 1622 the dread Chief Opechancanough fell upon the colony, and in the ensuing massacre destroyed the furnace, hurled the machinery into the river, and slaughtered the miners.

More successful was the trade in furs. To Carolina, to the southwestern frontier, strings of pack horses would carry cloth, hatchets, and knives to the Indians, and come back laden with the pelts of bear, beaver, mink and otter. Some outstanding Tidewater proprietors, such as William Byrd of Westover, made greater fortunes out of the fur trade than out of tobacco.

## LIFE IN THE COMMUNITY

Colonial Virginia was divided into counties, towns, hundreds (meaning districts of a size to furnish a hundred fighting men) and plantations. The county became the unit for the administration of justice. Each county seat had its own courthouse, jail, and the usual penal contrivances—whipping post, pillory, stocks, gallows, and ducking stool. In the early seventeenth century the marshal's fee for "Whippinge," or "Duckinge," was ten pounds of tobacco; for "Layinge by the heeles" five pounds.

One might expect that at these centers attractive little towns would grow up, as in New England, but in reality they were dismal affairs. There was, apart from courthouse and jail, the little church with its graveyard around it; a general store where the peddlers who made the rounds of the plantations could replenish their packs; in all probability a blacksmith's shop, and an unprepossessing tavern or "ordinary."

In an attempt to stimulate the growth of the town, the burgesses of Jamestown ordered that only brick houses be built there, prohibiting even the repairing of wooden ones. And to insure Jamestown's being used as a port for the tobacco traffic it was ordered that all the tobacco grown in the neighboring counties should be stored there, and that vessels with cargoes for plantations along the James should unload there. More laws were passed to encourage the growth of towns in other parts of the colony.

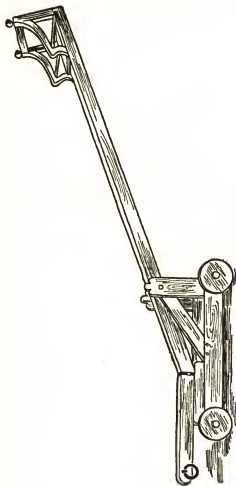
In vain. Nobody paid any attention. Jamestown itself was razed by fire at the end of the century, never to be restored.

There were no public schools. Sometimes, free schools were established as a result of donations. Then again, a number of planters banded together and organized a small school within convenient walking distance of each plantation. Because the schoolhouse was usually put up in some outlying field that was not under cultivation, these schools came to be known as "old field schools." The teaching was done by the local clergyman, or one of the planter's wives; occasionally by an indentured white servant, or even by an ex-convict. Many of the wealthy planters sent their sons to England to be educated, especially when they reached college age. Plans for a college at Henrico had been drawn up as early as 1618, twelve years before the founding of the Massachusetts Bay Colony, but the Indian massacre took the lives of several persons interested in the project, so that the college that was to be called William and Mary didn't come into being until 1693, and then it was at Williamsburg.

The authorities, indeed, looked with disfavor on the dissemination of knowledge. Not a single book was printed in the colony throughout the seventeenth century, and Charles II declared that his pleasure was that nobody in Virginia should make use of the printing press. "I thank God there are no free schools nor printing," declared the haughty Governor Berkeley in 1671, "and I hope we shall not have these hundred years; for learning has brought disobedience, and heresy, and sects into the world, and printing has divulged them, and libels against the best government . . ."

So elementary was the state of medicine in the colony that the settlers declared the Indian medicine men to be "as able physicians as any in Europe." Nor was the profession which was to produce John Marshall on the plane which it later reached. Lawyers were not held in high esteem during the first half of the seventeenth century.

The horror with which the Puritans regarded the drama was not shared by the Tidewater settlers; Virginia and Maryland, in fact, were the only colonies which never had laws forbidding plays. In 1665 the actors of a play called "Ye Beare and ye Cubb" were haled before the magistrate of Accomac county, who ordered them to give a dress performance forthwith. After enjoying himself in this way at no great personal inconvenience, he gravely declared that they were not guilty of any offense against the public taste. The



#### THE DUCKING STOOL

Woe to the common scold who, falling afoul of the law, was sentenced to be ducked in the local pond! The "ducking stool" operated on the principle of the lever, the culprit being held firmly in the wooden seat by means of an iron band. Wheels made it possible to haul the contraption through the village streets to the jeers of the populace. There are many more recorded instances of the ducking of scolds and witches in Maryland and Virginia, and even in the Quaker country, than in New England.

public presentation of this play was the first known dramatic performance in what is now the United States.

Outside of occasional dances, the sport the Virginians most dearly loved was horse racing, which in those days was restricted to the gentry. In addition, the planters and their guests were ready to go any distance to join in a hunt for the wild pigs that roamed the forest. And there was no more fascinating pastime than tracking raccoons or opossums, to the glow of pine torches, while the dogs were kept from straying by low calls on the cow horn.



## CHAPTER V

### THE ENGLISH: Pilgrims and Puritans in Massachusetts

#### INTRODUCTORY

THERE have always been people who think of existence as stern and serious, who believe that the love of the worldly things of life leads to luxury, pomp, and vanity and should therefore be repressed.

In seventeenth-century England there was a strong reaction against excessive worldliness. In matters of religion, it took the form, among serious, thinking people, of an aversion to anything about the Church of England which seemed to them to smack of Romanism. Not only were they disturbed by pomp and show, but by undue arbitrariness in religious matters. Some who wanted to worship God in their own way broke off from the Church, and became known as Separatists. Others who believed it could be purified from within, became known as Puritans. Subject to persecution, members of both groups decided to begin a new life in the American wilderness. So it came about that the first and most important settlement in the northern part of what is now the United States was founded by men of strong character, who checked a liking for any but the more sober amenities. The trait has left its mark, not only on New England, but on our national temperament.

A group of London merchants financed the founding of the new colony, which was expected to make a profit from fishing and trade, and to secure for England a supply of timber she badly needed for her ships.

The first little group of Separatists, known as the Pilgrims, whose tiny ship, the *Mayflower*, came to anchor in Plymouth harbor in 1620, at first experimented with a communistic form of enterprise. But those who worked hard resented having to contribute to the support of the lazy; the bachelors objected to helping support the men with families; while the married men didn't like the idea of their wives working for the community. So the experiment failed.

During the reign of Charles the First, the Puritans came by the thousands to the Massachusetts Bay Colony, seeking not so much religious freedom as a better way of life. The ruling powers in England had many problems on their hands at home; in the new colony, authority tended to be usurped by clergy and civil leaders not entirely free from bigotry and intolerance. Fanaticism, even, had by no means been left behind. Now it was the turn of the lovers of freedom to leave the colony. But their second exile had one im-

portant advantage: new regions were opened up, new settlements established. America began to grow.

## HOUSES

With the Mayflower riding at anchor in Plymouth Bay, men would go ashore and chop down trees to make a common house to store their goods, which, says Bradford in his history of Plymouth Plantation, were "long unloading for want of boats, foulness of winter weather, and sickness of divers." Unfortunately the house they built, "by casualty fell afire" and burned to a crisp.

Soon the settlers were living in "smoaky homes" dug into the hillsides, with roofs of bark and walls of sod. But it was not long before they built themselves simple frame houses. At first, the village was surrounded by a stockade. Later, each house had one, inside of which there was room for a "pretty garden plot."

A little to the north, the founders of the Massachusetts Bay Colony passed the first days in wigwams, and the common meeting place was under a tree. Then they built one-story wooden houses, whose roofs were thatched with bulrushes, or dried grass from the Back Bay salt marshes. Eventually cedar shingles were used. The chimneys were of wood plastered with clay, the floors of beaten earth.

At first the occupants had to do without windows, the only light being provided by the open fire, or a few tallow candles. Next, small latticed windows, with panes of oiled paper or linen, made their appearance. Some settlers brought glass with them, usually in the form of heavy, greenish, diamond-shaped panes.

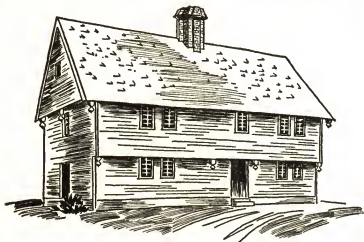
In the early lists of the colony's artisans, no painters are mentioned. Generally, houses were painted neither on the inside nor on the outside; it is quite possible that a painted house would have been considered ostentatious. (Ships—those houses of the deep—were left unpainted also.)

In due time, dwellings became more substantial. "The Lord hath been pleased to turn all the wigwams, huts, and hovels, that the English dwelt in at their first coming, into orderly, fair and well built houses, well-furnished many of them," wrote Johnson in his *Wonder-Working Providence*.

But it was not until the latter part of the century that the colonists began to build the houses customarily associated with seventeenth-century New England. There were the stark, rectangular garrison houses, with the second story jutting out a little over the first, a peculiarity to be found in Elizabethan houses. And there were the pleasant, rambling frame houses, with windows of all different sizes, placed anywhere, hit or miss; floors of different heights; and walls of varying thicknesses. The shingled roofs often sloped from the top of the second story in front, to near the ground in back. Other houses had gambrel roofs with gables at the end.

Craftsmen prepared the framework on the ground. When all the parts were ready, the neighbors were called in, and the house was put up. A thorough job it was, too—these houses are generally considered to have been more solid than those which came later.

A Puritan family never knew when it might not be disturbed by a long-nosed fire warden peeking into the fireplace for "foul chimney hearts," for



A GARRISON HOUSE

At the time of King Philip's War, it was decided that one family in every New England town would maintain a strongly built "garrison house," usually of squared logs, to which the other residents could repair in case of Indian attack. The overhang—not for defense, or it would have run all around the house—is one of many survivals of English tradition, for the men who built these early homes were Englishmen who had lived in England. This is the Parson Capen house at Topsfield, Massachusetts.

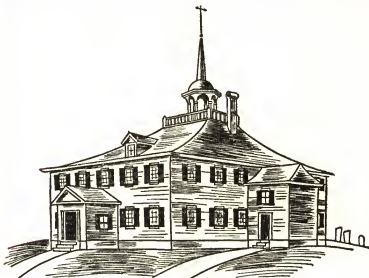
the old chimneys often caught fire. Of the thirty-two buildings in Plymouth, seven burned down in one winter. In Boston during the first winter, there was a fire every week.

How easily fires were started is illustrated by the misadventure that befell Mehitable Brabrooke, a young servant girl of Ipswich. As the Court Record tells it: "About 2 or 3 o'clock in the afternoon she was taking tobacco in a pipe and went out of the house with her pipe and she layed her right hand upon the thatch of the house (to stay herself) and with her left hand knocked out her pipe over her right arme upon the thatch on the eaves of the house (not thinking there had been any fire in the pipe) and immediately went downe into the corne feild to drive out the hogs she saw in it, and as she was going toward the railes of the feild . . . she looked back, and saw a smoke upon her Mistress' house in the place where she had knocked out her



pipe at which shee was much frighted." The court ruled that Mehitable should be given a severe whipping.

The early meetinghouses of our New England forefathers were rude structures about twenty feet square, with two windows, a door, and a chimney. No pulpit graced them, and there were only rude benches to sit in. "Ye first Meeting House," one chronicler writes, "was solid mayde to withstand ye



THE OLD SHIP MEETINGHOUSE

Shortly after Hingham, Massachusetts, was founded, in 1635, the meeting-house was built. It was distinguished for miles around by the fact that it actually had a bell in its belfry. Pictured here is the third, built in 1681, and still standing. It had galleries at the side and a porch at the end. The square, hipped roof in the form of a truncated pyramid is surmounted by a spired cupola. Since there was a lookout around the belfry, nautical-minded New Englanders were not slow to dub the building the "Old Ship Meetinghouse."

wicked onslauts of ye Red Skin. Its foundations was laide in ye feare of ye Lord, but its Walls was truly laide in ye feare of ye Indians, for many and grate was ye terrors of em. . . . I do mind me y't all ye able-bodied Men did work thereat, and ye olde and feeble did watch in towns to espie if any Savages was in hinding neare, and every Man kept his Musket right in his hands."

The next step was the plain building of sawn timber with a pyramidal roof topped by a cupola. In the cupola a bell was supposed to hang, and when it did, the bell rope came down into the wide aisle that separated the men from the women. When it didn't, people were summoned to church by playing the trumpet or drum, or even blowing on a conch shell.

One of the few seventeenth-century churches still standing today is the Old

Ship Meeting House at Hingham, in Massachusetts, so called because of the lookout station which surrounds the belfry.

## FURNITURE

To the shores of our native land the Mayflower brought, according to that sardonic soul, Oliver Wendell Holmes,

“ . . .—a hundred souls and more  
Along with all the furniture to fill their new abodes—  
To judge by what is still on hand,  
At least a hundred loads.”

As a matter of fact, the only surviving piece of furniture actually known to have come over on the Mayflower's first voyage is the wicker cradle of little Peregrine White, born as the ship lay off Cape Cod. Most furniture was made in the new land. From logs and slabs of the ash, maple, oak, and pine that grew outside the settler's door, he could fashion benches, stools, and crude tables, and he could whittle out churns, buckets, tubs, “piggens,” “rundlets,” “ferkins,” trays and spoons; shovels, flails, and barrel hoops. He could even make his own plow and harrow, a more difficult task.

A few craftsmen there were, too, who could turn their hand to furniture making. Such a one was John Alden, a cask maker by trade. John had not intended to come to America at all, but the “tonnage acts” required that someone be on board to make casks for the return trip, to replace those that had been damaged. Under the sway of the fair Priscilla, you may remember, he decided to remain. He became a joiner, and there is a chair at Duxbury today which he is supposed to have made. Another fellow who could make furniture if he put his mind to it, was the ship's carpenter.

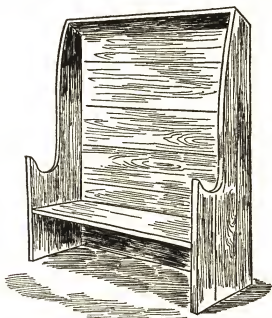
From 1660 on, in Ipswich, Massachusetts, one Thos. Dennis made fine carved oak chests and chairs.

Let's pull the latchspring of an early New England house and have a look at the main room. Although it was a small, low-ceilinged room, it was dignified by the name of the Hall, as was customary in medieval manor houses. It contained little more than a few benches; two or three four-legged stools; a settle by the fire; perhaps a plain deal table, and, if the family all lived in one or two rooms—as they frequently did—a simple frame bedstead or jack bed in the corner.

The English four-poster bed, as has been mentioned, was really a little house, designed to protect the occupant from drafts. The same might be said of the Puritan settle. The high back and side pieces served as a protection against the wind that blew through the cracks between the timbers of those primitive homes. And in an odd way the settle seems to express the Puritan temperament. Your effete modern would find such an angular, uncompromis-

ing seat uncomfortable. But such a thought would have never crossed the mind of a Puritan housewife.

Once more the chest occupied the place of honor. In a large one you could put tools; in a medium-sized one, household linens, woolens, and clothing; while little ones were used for seeds, books, and trinkets. The smallest of all were known, according to their use, as "writing boxes," "desk boxes," and



THE SETTLE

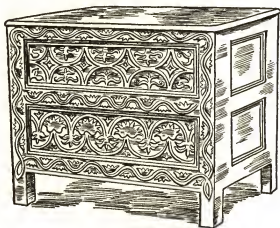
Originally either a chest or a bench, equipped with high back and sides to keep out the draft, the settle was among the first articles of furniture of any consequence to appear in the Puritan kitchen. You pulled the settle up to the fireplace, and there you were in a cozy little room of your own.

"paper boxes." They took the place of desks. "Bible boxes" were carved in front, often with the initials of the owners, and had heavy locks. Parents had beautiful, ornate, wedding chests made for their daughters, in which the home-made trousseau would accumulate through the years.

The first cabinetmakers were men who had a knack for putting things together, but most of them wisely continued to combine their trade with farming, or like as not acted as the neighborhood coffin maker and undertaker. Toward the middle of the century emerged the first professional cabinetmaker in the history of the country whose name has come down to us: Nicholas Disbrowe, of Hartford. He it was who originated the beautiful Connecticut sun-

flower chest and the use of the conventionalized tulip. The sunken background of the panels is often painted black; the carving, red. Then there were Hadley chests, distinguished by a pattern frequently consisting of a crudely carved leaf, flower, and small scroll. Tulips also appear. These chests were originally made in Hadley, Massachusetts, the work of a group of men headed by Disbrowe's nephew. They were sometimes left unpainted.

Eventually chests sprouted little legs. Later they began to grow taller. In this form they did not differ essentially from a modern chest of drawers or



A CARVED CHEST

The chests made in New England did not have drawers until well along in the seventeenth century. These ornate fronts, with their sunflower or tulip designs, came from the workrooms of Nicholas Disbrowe in Hartford, Connecticut, or of his contemporaries in the neighborhood. The chest became the chest-of-drawers; the chest-of-drawers—the bureau.

bureau. Dressing tables came to be known as lowboys, and tall chests as highboys, but these are really modern names bestowed by antiquarians.

Tables for eating purposes were improvised by laying rough boards across trestles. Blocks of wood about a foot square, hollowed in the middle, served as plates, a man and his wife, or a couple of children, often sharing the same one. "Trenchers," they were called, just as they had been in England, where for centuries the phrase a "good trencherman" signified one who had a hearty appetite. The early governors of New England used trenchers, and so, for many years, did the students at Harvard.

The only drinking vessel might well be a bowl hewn from a maple knot, or, in later days, a Staffordshire mug which was passed from hand to hand. The antiquarian Dow tells the story of a guest who was reluctant to drink out of the common mug. Finally he chose a comparatively clean place near

the handle, whereupon the children shouted: "See Mar! He's got Granny's place." Spoons were common, but to cut meat people used their own pocket knives. In 1630 Governor Winthrop brought over a fork, which was carefully kept in a case as a rare curiosity.

In accordance with an old Tudor custom, the men ate first, followed by the women and children. The practice has survived among our hillbillies of today. In modest households children often had to stand behind their parents' chairs



A PURITAN FOLDING BED

In seventeenth-century New England, native bedsteads, in contrast to the heavy carved oak pieces brought to the South from England, were little more than simple frames. In 1633, in Plymouth, old bedsteads were valued as low as two shillings each. More substantial is the one pictured here: dating from about 1700, and made of maple, it has two tall posts and a framework at the head to support the hangings.

or stools, and eat what was handed to them; even in those of better class, they were required to stand at table and eat in silence.

Because the same room was used for cooking, eating, living, and sleeping, the first real tables—known as "tuckaways"—were narrow, with wide leaves, so they could be tucked away in a corner, or trestle tables fitted with draw pins.

After a long day the hard-working couple laid themselves down to rest on a jack-bed. It was made by setting a post in one corner of the room, about

six feet from one wall, and somewhat nearer to the other. From the post a rail extended to each of the two walls, supporting a row of slats or short poles. The walls thus served as back and side. The mattress was a tick stuffed with straw, reeds, chopped-up rags, feathers, or "flock" (tufts of wool and wool ravelings), and sometimes cat-tails. In the middle of the century died an individual whose sole belongings were "an old bed stuffed with cat-tails and an old rug."

But the most important part of the room was the kitchen with its big fireplace—known as "chimneys"—sometimes as much as eight or ten feet in width. A hard wood trammel bar crossed the flue, and from it hung the pots and kettles for cooking, for making cheese, for boiling soap and dipping candles. Inside the fireplace was a bench to sit on during the cold winter



A RUSHLIGHT HOLDER

The pith of the cat-o'-nine-tails which grows in every New England swamp, when dipped in tallow made a "rushlight." It was wound around the spike and held in place by the catch. The part of the reed not yet consumed stayed curled up inside the holder.

evenings. The flickering firelight was reflected in the brightly burnished copper and brass and pewter ware which hung along the walls. Ladles, skimmers, spoons, colanders, and candlesticks, were made of brass and iron and pewter.

The only light besides that of the open fire came from a few tallow candles, rushlights of reeds, or rushes, dipped in tallow, and long pieces of resinous pitch pine stuck between the hearth flags. Known as candlewood sets, these gave forth a bright flare and a good deal of smoke. By their light, it is said, John Eliot translated the Bible into an Algonquin dialect.

"Betty lamps" were also used—small iron saucers filled with oil, with a handle at one end, and a nose or spout for the wick to lie in, which had come down unchanged over two thousand years from the days of Pompeii and Athens.

## CLOTHES

Like many persons who have few of them, the Puritans set small store by worldly accomplishments or dignities. Their costume reflected this attitude. The brightly colored knots of ribbon, delicate laces, and ground-sweeping feathers characteristic of the court of Charles the First, were forbidden. The costume of the Puritans, on the other hand, who were of higher social status than the Pilgrims, did not differ greatly from that of other Englishmen of the period. Although all conspicuous decoration was avoided, it reflected the wealth and rank of the wearer.

Your early New England colonist might wear a short-waisted, black doublet, full breeches, and long red, russet, gray, or green stockings, or trunk hose. He wore a full linen collar or falling bands; his cuffs, too, were of white linen. His broad-brimmed, black felt hat boasted a ribbon band and a silver buckle.

As life in the New World became more settled, a man of position wore his doublet over a waistcoat with slashed sleeves, which were often embroidered. His shoes were decorated with rosettes; his hat would be of beaver; he might sport embroidered gloves, or fringed—or figured—gauntlets, and a sword carried in an embroidered shoulder belt.

In Europe, about 1670—and the fashion was followed in America—men began wearing hats with a brim so wide that it was found convenient to fasten one edge to the side of the crown. After a time two sides were secured in this way, and during the reign of Queen Anne, the brim was caught up in three flaps. Thus the triangular cocked hat was born.

Toward the end of the century, long, straight, colorless coats came in, which were worn with a neck cloth, fastened under the hair in back by a silver buckle.

Despite the traditional drabness of the Puritan costumes, gatherings—at the market place, for instance, as Hawthorne has pointed out—were not lacking in color. The settlers would be wearing green or brown or "Deere coloured" purple; these were known, for some reason, as "sad colours." The militia wore glittering cuirasses and over their bright morions (crested, hat-shaped helmets) the plumes nodded gaily. Here and there were planters from Piscataquay in scarlet waistcoats, laborers in red stocking caps, and pirates with brass rings in their ears, and long mustachios. Last but not least there were the Indian braves, in embroidered deerskins with waving feathers on their heads; their bodies daubed with red and yellow ocher.

The women of the colony wore gowns of purple, gray, or brown cloth, looped back to reveal petticoats of homespun or linsey-woolsey. They wore white linen falling bands, and turned-back cuffs and aprons. Out of doors they covered their heads with kerchiefs or caps, and, in cold weather, fur-lined hoods. Velvet masks were used as a protection against the winter winds.

Woolen-stockinged legs were thrust into stout, square-toed shoes, with wooden heels.

Just as soon as they could toddle about, little boys were dressed like full grown men, in doublet, knit cap, and leather knee breeches. Little girls dressed just like their mothers.



#### THE DRESS OF THE PURITAN FAMILY

Here is a family of the Massachusetts Bay Colony. The father, a "gray old Gospeller, sour as midwinter," is wearing a cape of somber black; but his costume and that of his good wife might be chosen from a number of conventional colors. In addition to purple and gray, various shades of brown predominated: tan, russet, ginger, fawn, dead-leaf, and "treen color," or the color of tree trunks. Although some scholars take exception, tradition insists that the Puritan wore a steeple-crowned hat. And who are we to say otherwise?

As in other parts of the world, costume in seventeenth-century New England became the occasion of discord and even litigation. The number of slashes permissible on each sleeve was limited by decree, and, to the grievous perplexity of the women folk, at one time both short sleeves and large sleeves were prohibited. Rank, too, was involved. The Court proclaimed in "utter detestation of men and women of mean condition . . . [who] should take



upon them the garbe of gentlemen by wearing of gold or silver lace." But it was all right to wear lace if you were worth more than two hundred pounds.

A minister with a quizzical sense of humor held one of his parishioners up to scorn in the following terms: "When I hear a nugiperous Gentledame inquire what dress the Queen is in this week, what the nudius Tertian of the Court, I look at her as the very gizzard of a trifle, the product of a quarter of a cypher, the epitome of nothing, fitter to be kickt, if she were of a kickable substance than either honored or humoured."

Men who openly defied the restrictions against such extravagances as broad shoulder-bands, double ruffles, capes, and silk rosettes on shoes, not to mention "immoderate great breeches," could be "presented"—hailed into court by order of the selectmen. This was equally true of women, who were sometimes called to order for "going as far as they may." Hannah Lyman, for example, was rebuked for "wearing silk in a flaunting manner, in an offensive way and garb not only before but when she stood presented."

Not only was "wicked apparel" a bone of contention. Such momentous questions as whether to wear the hair long; whether to wear a wig; whether a man should wear his hat in church, or a woman a veil, kept parishes in an uproar. At one time the women of Salem wore veils in church, or refrained from doing so, depending—so the story goes—on whether John Cotton or Roger Williams was preaching. To wear the hair long was considered impious and shameful. But toward the end of the century there crept in a still more provoking mode—the wearing of wigs. They were made of thread and silk; of human hair; of the hair of horses and goats, and even of cows' tails. Soon everyone sported a wig, from social leaders down to servants and even convicts. The diary of the worthy Samuel Sewall of Boston is full of complaints about them. Here is a sample: "August 20, Mr. Chievar died. The Wellfare of the Province was much upon his Spirit. He abominated hairy Wigs."

## FOOD

In the *Courtship of Miles Standish*, Longfellow speaks of the Pilgrim colony as

" . . . a land of sickness and sorrow,  
Short allowance of victual,  
And plenty of nothing but Gospel!"

The first winter was the hardest. In addition to being terrified by the roar of "lyons" and by wolves "who sat upon their tayles and grinned at them," the Pilgrims watched their scanty store of provisions shrink almost to nothing. By spring, half the members of the little colony were dead. The chance of survival of the others depended on the harvest, and when it came in, the

rejoicing was great. For three days the settlers feasted on wild turkeys, geese, duck, water fowl, cod and shell fish, barley loaves, corn bread and vegetables, not to mention five deer contributed by 'King' Massasoit, who attended with ninety of his warriors. Thus was inaugurated the New England custom of celebrating Thanksgiving.

Even in the Massachusetts Bay Colony there were no stores for fifteen years; potatoes were not introduced for half a century; and though apple



TANKARDS

The English settlers were, as Shakespeare has it, "potent in potting." Leather mugs bound with metal strips and great tankards made of wooden staves and coopered with withes contained the ale, beer, mead, metheglin, cider, syllabub and sack they consumed in generous quantities. Some held as much as two quarts and were passed from hand to hand. But in time attempts were made to restrain drinking: the minister would keep a check on those who went into the "ordinary" and remonstrate with them; a specially appointed official would follow a man through the tavern door and stop him when he had drunk enough.

seeds were planted it was long before the trees—which later became a characteristic of the New England countryside—bore fruit. Wrote Roger Clap of Dorchester: "It was not accounted a strange thing in those days to drink water, and to eat Samp or Homine without Butter or Milk. Indeed it would have been a strange thing to see a piece of Roast Beef . . . though it was not long before there was Roast Goat. . . . The Indians did sometimes Trade with us . . . once I had a Peck of Corn . . . for a little Puppy-Dog."

Corn inevitably furnished the bulk of the settlers' fare, cooked Indian fashion, made into johnnycake, and "hasty pudding"—corn-meal mush and milk. It also provided bread in the form of "bannock"—corn meal spread on a board and baked in front of the fire. Mixed with rye meal and baked in the brick oven along with beans, it became the "Boston brown bread" of enduring fame.

Yet there was no lack of game in the early days. Deer and elk roamed the forest in great numbers. (As late as 1680 Samuel Sewall was to write in his

diary: "Newes is brought of Mr. Deans son Robinson, has killed a lion with his axe in Andover.") Wild turkeys waited in stupid immobility to be shot from their branches. Flocks of wild pigeons darkened the sky. In the bay in early times there were eels by the bushel, and lobsters weighing from sixteen to twenty-five pounds and measuring five or six feet from claw tip to claw tip.

In addition to corn, boiled meats and vegetables and stews predominated in the diet of the seventeenth-century New Englander. And the brick oven, in addition to beans, was used for the baking of peas, Indian puddings, pies, cakes, and sometimes meat and potatoes. Pumpkins with the seeds taken out through a hole in the stem were baked and filled with milk—and the empty shells were used either to hold yarn and other housewifely items, or as jack-o'-lanterns. As in England, bean porridge was cooked in bulk and used over a period of time, hence the line in the old rhyme: "Bean porridge in the pot, nine days old." Cider came to be considered a necessity; a thoughtful husband would stipulate in his will that his widow was to be furnished with several—sometimes as many as eight—barrels a year.

## AGRICULTURE

In the South, the Indian's great gift to the White Man was tobacco. In the North, it was corn. Corn kept the New England colonists alive during the hard early years, and supplied most of the dishes on their table during the remainder of the century.

It was Squanto, the Indian, the Pilgrims' faithful friend and guide, who showed them how to plant corn in little hillocks, and fertilize it with herring, shad, and alewives. And in the irregular clearings, carved with sweat and toil from the thick forests, corn proved a blessing. For the plow of those days was massive, with a wooden moldboard tipped with iron; to handle it required as many as two yoke of oxen and three men. Until the middle of the century there were few plows in the Massachusetts Bay Colony. But for corn, it was enough to dig a small hole in the ground, or scratch a furrow with a stick, and drop in the seed. The corn shoot could be pretty well left alone until harvest time, when the ripe ear could be picked like fruit.

So important was corn in the Puritan economic life, that it often served as currency—as did tobacco in Virginia, beaver in the New Netherlands, and hides in Spanish America. Only four years after the landing of the Pilgrims, Bradford wrote: "They begane now highly to prise corne as more pretious than silver, and those that had some to spare begane to trade one with another for smale things, by ye quarte, potle & peck & etc.; for money they had none, and if any had, corne was prefered before it."

Back in the early days of the colony, Captain Standish bought a six-thirteenths share in a red cow, paying for it in baskets of corn. This harks back to the experiment in communism, when each half-dozen persons were en-

titled to several pigs and a part interest in a cow, and "2 goats to ye same, which were first equalized for age and godnes."

But the character of the New England soil and climate prevented it from becoming a one-crop colony as did Virginia. There were other fascinating occupations; lumbering, fishing, and shipbuilding.

It was not long before little wooden one-story mills for grinding corn appeared on the banks of streams and tidal inlets, or on the top of windy hills, frightening the Indians with their "long arms and great teeth biting the corn in pieces." And as a matter of historical fact sawmills were common in New England before they made their appearance in Holland or Great Britain, where the sawyers, fearing unemployment, fought them off until the end of the century.

## TRANSPORTATION

Early colonial ships, which rarely exceeded two hundred tons, took from one to two months to cross the ocean, and a prospective passenger might have to wait several months before there was a sailing. Merchantmen usually made one trip a year. North America was much farther from England then than the Antipodes are today.

By the time official reports reached the English government, the situation in the colonies might have changed completely. One governor was removed without a hearing simply because the members of the English Board of Trade got tired of waiting for the answer to charges brought against him. And when Charles the Second ordered that executions of the Quakers in America should stop, the Quakers in England took no chances—they chartered a ship just to carry the message to America.

Since it might take a year, or a year and a half, before notice of His Majesty's disapproval of a new law could reach them, colonial legislators rejoiced in intervals of complete independence. Moreover it was always possible, at the end of the interval, to enact a new law which again could not be vetoed for eighteen months. To the slow speed of sailing vessels, then, our ancestors owed a habit of independence which was to have a profound influence on the course of the nation's history.

The American colonies were born "all along shore." Even for inland travel, it was easier to go by water. Now the ship's carpenter of the Mayflower was an industrious fellow, and he quickly turned out some shallops and a lighter, and had hewn the timber for two "catches" when, in the words of Governor Bradford, "He fell into a fever . . . in ye hote season of ye year" and died. (The "catch," or ketch, was a sturdy two-masted vessel of from twenty tons up.) So the good work had to be carried on by the house carpenter, who "tooke one of the biggest of ther shallops and sawed her in the middle, and so lengthened her some 5 Or 6 foote, and laid a deck on her; and so make her





### THE DUCKING OF WITCHES

Tradition would have us believe that the time-hallowed custom of ducking witches and scolds was prevalent in New England, although historical records indicate that it was more common in the South and even in the Quaker regions. But in 1672 the following law was passed in the Massachusetts Bay Colony:

"Whereas there is no expresse punishment by any law hitherto established affixed to the evil practise of sundry persons by exorbitancy of the tongue in rayling and scolding, it is therefore ordered, that all persons convicted, before any Court or magistrate that hath propper cognizance of the cause for rayling and scolding, shalbe gagged or sett in a ducking stoole & dipt over head & eares three times in some convenient place of fresh or salt water as the Court or magistrate shall judge meete."

This wood engraving by C. S. Reinhart is from *Harper's Weekly*, November 21, 1885.

a conveniente and wholesome vessell, very fitt and comfortable for ther use, which did them servise 7 years after."

The New Englanders took naturally to the sea; only a few years later they thought nothing of sailing to Bermuda and the West Indies to trade staves for corn, tobacco, wine, salt and sugar. In 1641 a "prodigious ship of three hundred tons" was built at Salem, and within a score of years New England yards were receiving orders from abroad. The shipwright's hammer was never still, and the rush of a vessel down the ways was a familiar sound.

Curiously enough, ships were often built in the woods, a mile or two from shore, and then, propped up on a wheeled cradle, they would be hauled to the beach by several yoke of oxen, amid the plaudits of the crowd. Apparently it was easier to haul the finished ship than the individual timbers.

For river travel, an attempt was made to use the bark canoes of the Indians, but the stiff-necked Puritans were no persons to keep their balance in these capricious craft. A colonist would buy a canoe from an Indian, step into it, and as quickly vanish into the water. The Indian would then buy it back at a bargain, and quietly paddle away. The settlers soon gave up canoes in favor of pirogues of seasoned log sections, fifteen to thirty feet long, hollowed out by fire and shaped with hatchets.

The pioneers hesitated to venture into the wilderness. Trees grew uncomfortably close together, and in parts of New England, notably New Hampshire, were of great size. Most were from two to five feet thick; a tree seven feet through would be considered large, but some reached a diameter of as much as fifteen feet. Many towered a hundred and fifty feet into the sky, while beneath lay an impenetrable mass of fallen logs and tangled vines.

Indian trails gradually grew into paths of a more permanent character. Such a one was the Bay Path from Boston to Springfield, the ancestor of all the "Old Bay Roads" radiating out from Boston. In the early days, as Johnson says, "Horse had no . . . success, which made many an honest GENTLEMAN travel of foot for a long time." Eventually horses came into use, and sometimes travelers, in preference to the pillion, employed a method known as "ride and tie." Two persons would set out with one horse. One of them would ride it a mile or two and then tie it to a tree, and continue on foot. When the one who had been left behind reached the horse, he would mount it and ride ahead until he caught up with the other person. Then the process would be repeated. Four people could also use the horse in this way, riding it two at a time, but how the horse liked this arrangement is not a matter of record.

Travel being in so primitive a state, people seemed to have no great desire to act as innkeepers, and it became necessary to offer inducements in the form of grants of land or pasture, exemption from church rates, and school taxes. Yet the profession did not lack interest. In addition to accommodating travelers, the inns, or "Ordinaries," as they were called, constituted a convenient

meeting place for townsfolk who might wish to exchange gossip, news, and ideas.

Mail was carried by itinerant vendors, chance travelers, and even Indians, until, in 1673, the first regular mounted post was inaugurated between New York and Boston. The letters and "small portable goods and divers bags," which were crammed into his two "portmantles," had been collected during



THE PILLION

In the absence of carriages, not to mention roads, the wives of the early settlers were obliged to ride behind their husbands on little cushions strapped onto the horses' backs. They were known as pillions. To prevent slipping off on the rough trails, a wooden footrest hung down on one side.

the previous month in a box in the office of the Colonial Secretary. The post rider was supposed to keep an eye out for the best routes through the forests, for practicable fords and places for ferries.

Traveling long distances on horseback was an adventure. As late as 1704 a schoolmistress named Sarah Knight, after an exciting trip on horseback, scratched this verse with a diamond on the schoolhouse window:

"Through many toils and many frights  
I have returned, poor Sarah Knights.  
Over great rocks and many stones  
God has preserved from fractured bones."

## INDUSTRY

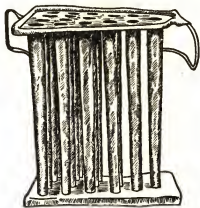
On the long winter evenings, the men folk fashioned benches and whittled tableware. Or, perhaps, the whole family got together and made cloth. Father



and the older boys operated the cumbersome hand loom. Grandmother carded the wool, or drew out the flax into long even yarn, while Mother stood beside the spinning wheel.

Often the little children sat on a plank on top of the dye pot in the chimney corner, and had a fine time mixing dyes. Madder plants gave a red dye; pokeberry juice, crimson; the sassafras, orange. Yellow came from fustic, copperas, and the bark of hickory and oak, the latter also giving brown. Blue came from logwood—eventually superseded by indigo; green, from the goldenrod, mixed with indigo; purple, from the iris.

The preparation of flax was no simple task. After the fiber was cleaned with a flax break, it was beaten with a wooden paddle—this was called swingling—and then combed.



CANDLE MOLDS

The homely chore of candle dipping eventually gave way to the use of molds. Made of pewter or tin, these consisted of a number of tubes—from two to several dozen—into which the wick was lowered, the molten tallow being poured around it.

To make tallow candles, half a dozen pieces of cotton wicking were draped over a short stick. Then, by means of a couple of old rake handles placed on chairs, a number of these sticks were suspended over a large kettle, full of melted tallow which had come from animals killed on the farm. Over and over again, the wicks were dipped in the tallow until they reached the desired size.

The trees of the forest provided the New Englander with his furniture, and most of his utensils, not to mention his house. Trees too provided the chief export commodity. The English sailors could tell when they were nearing the New England coast by the odor of pine coming down the wind. This has a certain symbolic significance, because the most desired cargo was timber—the timber England wanted for her "hearts of oak." Here pine trees grew straighter and taller than anywhere else in the British realm, and from early

days the Admiralty marked many of them with the government "broad arrow" for use as masts.

When these great trees were hauled shoreward by hundreds of straining oxen, they wore a path through the forest. Like the "rolling roads" of Virginia, these "mast roads" were among the first in the colony.

Timber had other uses. Even in the earliest days, the shore was piled high with wainscoting, clapboards, planks, and pipe staves, sawn by hand, and carried on the backs of human beings from forest to shore. As the trade with the West Indies grew, pipe staves were exchanged for wine, sugar, salt, cotton, tobacco, and eventually "Africoes," as Winthrop called them in his *Journal*. But in New England, even field hands had to be versatile, so the colonists had little use for slaves except to reship them south.

The first American fish story, in which Captain John Smith described a river in Virginia so full of fish that he caught them with a frying pan, can be matched by the account of a New England chronicler that certain rivers were so full of fish "that a man might pass upon their backs dry-shod from one bank to the other." The alewives that Squanto used to fertilize the hills of corn came up the river in shoals of ten and twelve thousand at a time. Eels and lobsters were plentiful. Sea fishing for cod and bass quickly became an important industry. Although Governor Winslow observed that tobacco could be grown in the colony, he advised against it on the ground that "fish is the better and richer commodity and more necessary: which may be, and are there had in as great abundance as in any other part of the world." When one minister told his congregation, according to Cotton Mather, that unless they continued to be religious, "they would contradict the main end of planting this wilderness," a listener cried out that the main end was to catch fish.

Once caught, however, the fish had somehow to be preserved. No salt, no fish. A salt man was sent over, who, the company claimed, was "a skillfull & industrious man . . . that may quickly apprehende ye misterie of it." But he turned out to be "an ignorante, foolish selfwilld fellow," who burnt the salt works, "and this was the end of that chargable business." That enterprising leader, John Winthrop the younger, failed in repeated attempts to make salt by evaporating sea water.

He was more successful in the manufacture of iron from the ore found in the bottom of bogs and ponds. At Salem there was good clay, and a brick kiln was built there in 1629. Ten years later there "were granted to the glassmen severall acres of ground adjoyning to their houses," for the manufacture of glass. The tannery at Lynn attracted an enterprising shoemaker who laid the foundation of a great industry. Nor should the slate, limestone, and ironstone be deprived of mention, and the great "rockes" of marble stone, from which, some say, Marblehead, near Salem, took its name.

The whaling industry had not yet been born. But every year a few dead

whales were washed up on the sandy shores of Cape Cod. The settlers—presumably holding their collective noses—would go down to the shore, and cut out chunks of flesh from the carcasses of the whales, from which they would remove the blubber. When heated, this blubber gave out an oil which did



CANDLES

Candles were made of tallow—although cattle were rare in the colonies until the last third of the seventeenth century; deer and bear fat; the honey of wild bees; spermaceti, from the head of the sperm whale; and bayberries. Although many candles were made at home, there were men who went from house to house to make up the winter's stock of candles. They were doubly welcome as purveyors of news. Twisted candles, a European innovation, were more often to be seen in the eighteenth century.

not have to be refined, and was at least as good as butcher's fat for making soft soap, and for lighting.

## LIFE IN THE COMMUNITY

The intellectual activities of the Puritan centered in the meetinghouse, where he went to worship and attend the weekly lecture. (School, too, was held there.) And austere those activities certainly were. Music was barely tolerated. To "fashion a new tune"—that is, to compose—was considered vain and worldly. Until the end of the century inventories do not mention musical instruments, and as late as 1675 a law was passed that no one should play on any instrument except the drum, the trumpet, and the jews'-harp, all hallowed by being mentioned in the Old Testament. (The jews'-harp, as a matter of fact, caught the fancy of the Indians because it was easy to play, and thousands were imported from England.) Most of the congregation couldn't

read music. An Elder, acting as "Precentor," would "set the tune" by singing one line and then waiting for the congregation to repeat it, often thereby causing a break in the continuity of the words. An example:

Precentor: The Lord will come and he will not

Congregation: *The Lord will come and he will not*

Precentor: Keep silence but speak out.

Services were long and monotonous, consisting as they did mainly of sermons and prayers by the minister. In the diary of Increase Mather is the following note: "Sabbath, Dec. 24, 1675. A. M. Mr. Noel prayed. Mr. Allen preached. P. M. Mr. Eliot prayed. I preached. Lord graciously assisted."

The same austerity was observed in other religious ceremonies. Prayers for the souls of the departed smacked of Romanism; when Governor Bradford was laid in his grave his friends stood in reverent silence. But in later years not all funerals were marked by such solemnity, as is implied by a bill for the funeral expenses of Titus Weymouth, in Plymouth, in 1656:

	£.s.d.
"Item.—For a winding sheet, 5 yards of lockorum & thread....	o. 8.5.
Coffin .....	o. 8.0.
Digging Grave .....	o. 3.0.
Clerk of Court .....	o. 2.6.
Tavern Charges .....	o.12.0.

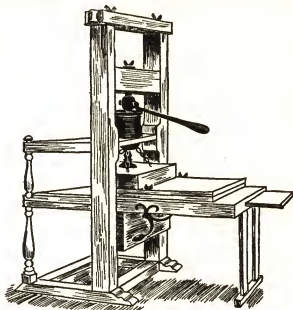
At the end of the Sunday service, or at the end of the lecture, the minister gave out the names of persons engaged to be married and punishment was meted out to offenders. The congregation clustered around the meeting house door to read notices of meetings and vendues, or auctions; bans, regulations against breaking the Sabbath; regulations against selling guns and powder to the Indians; and against selling scurrilous verses.

On the green outside the meetinghouse stood pillory, stocks, whipping post and cage, symbols of the sternness of the Puritan attitude. But it must be remembered, as Dr. C. K. Shipton has pointed out, that the Puritans' codes of punishment in England and America were a landmark in the development of humanity toward man, and that they were the first people to legislate against cruelty to animals.

Punishments were varied: the drunkard might be obliged to go about with a great letter D hung about his neck; the blasphemer might have his tongue put into a cleft stick. One Philip Ratcliffe, convicted of "most foul, scandalous invectives against church and government," was censured to be whipped, lose his ears, and banished. Not everyone was easily intimidated, to judge by an entry in Governor Bradford's Diary:

"At ye spring of ye year, about ye time of their Election Court, Oldam came againe amongst them; and though it was a part of his censure for his

former mutinye and miscariage, not to returne without leave first obtained, yet in his dareing spirite, he presumed without any leave at all. . . . He caled them all to nought, in his mad furie. . . . But in conclusion they comited him till he was tamer, and then apointed a gard of musketers which he was to pass throw, and ever one was ordered to give him a thump on ye brich, with ye but end of his musket, and then was conveied to ye water side, wher a boat was ready to cary him away. Then they bid him goe & mende his maners."

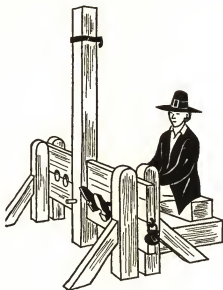


THE FIRST PRINTING PRESS

Not twenty years had passed since the landing of the Pilgrims when the first printing press and type were brought over from England by Stephen Daye. It was set up in the house of Henry Dunster, first president of Harvard.

What village schools there were—usually nothing more than bare rooms equipped with a few rough desks and benches—had neither blackboards, maps, nor pictures. The schoolmarm dipped her goose quill pen into ink made by mixing tea with iron. The pupils wrote with plummets of lead tied by a string to a ruler, and shaped, for decoration's sake, like tomahawks; their copybooks were made of large sheets of paper carefully sewn and ruled by hand. Paper was a luxury, and sometimes little boys and girls would wander off into the birch groves and tear off strips of bark on which to do their lessons. Parents contributed logs for the fire as part of the tuition, and children whose parents hadn't paid up, were obliged to sit farthest from the fire. Little Indian children were taught for nothing.

The first school book, known as a "hornbook," was a square piece of wood, covered on both sides by a transparent piece of horn. Between the horn and the wood was a paper on one side of which was printed the alphabet, a few syllables, and the Lord's Prayer. On the other side was a picture of the King, or perhaps a huge bird. This was succeeded by the *New England Primer* which served as intellectual nourishment for little Americans for two centuries.



THE STOCKS

On the green outside the meetinghouse stood the stocks, whipping post, pillory, and cage. The stocks consisted simply of a frame of heavy timbers through which were thrust the hands and feet of the culprit. He thus remained helplessly exposed to the contumely of the populace, which sometimes took the form of over-ripe tomatoes and eggs no longer in their prime. As instruments of punishment they continued until the beginning of the nineteenth century.

A very religious book, it was known as "The Little Bible of New England." Next in the parade—for secondary schools—came a Latin grammar, and then an English grammar; these, it has been claimed, were often written in rhyme to make memorizing easy. Early in the century, then, childish voices could be heard chanting "Thirty days hath September. . . ."

The first college in what is now the United States had a modest beginning. Founded at Newtown, near Boston, in 1636, it was eventually supported by the revenues of the ferry between Boston and Charlestown and a contribution of one peck of corn and twelpence from each family in the colony. Luckily it fell heir to half the estate of John Harvard, and his library of several hun-

dred volumes, in recognition of which it assumed the name of its benefactor, but in 1642 it graduated no more than "nine young men of good hope."

Cambridge, as Newtown was rechristened in honor of the English alma mater of Harvard and several other men interested in the new institution of learning, also had the first printing press in America north of Mexico. It was in 1639 that a printer named Stephen Daye set up his press in the house of Henry Dunster, Harvard's first president. Laboriously setting every letter by hand, Daye turned out the *Freeman's Oath*, the *Almanac*, and the famous *Bay Psalm Book*.

The Puritans were a bookish lot. William Brewster, if he can be included in this category, left nearly four hundred volumes—imported, of course; John Winthrop, a thousand. In these libraries there was a preponderance of sermons and religious discussions, for the Puritan thinkers were always ready to rush into print in defense of their ideas.

Imagination, which tended to be subordinated in the Puritan mentality where the pleasant things of life were concerned, broke out in another direction. The New Englander, although no more superstitious than his contemporaries in such countries as Italy and France, played out his life's drama against a background of malignant spirits, devils, and supernatural manifestations. When Cotton Mather lost the manuscript of some lectures he was satisfied that "spectres, or Agents in the invisible World were the robbers." His father, Increase Mather, called the comet of 1680 "Heaven's Alarm to the World." And a year later the synod passed a resolution to the effect that "Divine Judgments, Tempests, Floods, Earth-quakes, Thunders as are unusual, strange Apparitions, or whatever else shall happen that is Prodigious, Witchcrafts, Diabolical possessions, remarkable Judgments upon noted Sinners, eminent Deliverances, and Answers to Prayer, are to be reckoned among Illustrious Providences." Even the flummery of Indian medicine men made the colonist uneasy. And they were afraid to take a census because reading of the Old Testament had convinced them that they might thereby incur God's wrath.

It may have been their own repressed doubts and fears which took the form of the persecution of witches. Doctors, moreover, found witches convenient scapegoats on whom to blame the demise of patients who did not do so well under their ministrations. The insane, and epileptics, were still believed to be possessed of the devil. Here as elsewhere, medicine made slow headway. For this reason people tried a hand at caring for their own ills. "For all sortes of agewes," wrote Governor Winthrop, "I have of late tryed the following magnetically experiment with infallible success. Pare the patients nayles when the fever is coming on; and put the paringes into a little bagge of fine linen or sarement; and tye that about a live eeles necke, in a tubbe of water. The eele will dye and the patient will recover." He also experimented with powdered toads, and powdered "crabbes eyes" (concretions from the stomach of

the crawfish) boiled and taken internally. "Give two spoonfuls att a time to drinke, three times a day," he wrote, "and you shall see a strange effect in a weeke or two." Even Judge Sewall, whose active life rounds out the turn of the century, believed in such cures as the application of a swallow's nest to a sore throat.

When it came to having a good time, even the Puritans could not entirely ignore the more sociable side of human nature. In the early days the parish lectures, which were usually on subjects that would seem rather forbidding to us, were eagerly looked forward to. And the days when the militia drilled provided another diversion; it eventually became customary to wind up with a banquet. Election day, when the governor was chosen, became a time "to meet, to smoke, carouse, and swagger God with the greater bravery."

In the middle of the century, however, a law was passed to punish masquerading, proving that "some abuse hath formerly broken out amongst us by disguising, wearing visors, and strange apparel." And in 1685 a dancing master was haled before the court for giving mixed dances on lecture days. At the same time an attempt to give a theatrical performance was suppressed.





BOOK TWO

The Eighteenth Century—  
The Colonizers



## CHAPTER VI

### NEW ENGLAND: The Merchant Reaches Out

#### INTRODUCTORY

A HUNDRED years had rolled around since the first hardy settlers wrested a living from the wilderness. Times had changed. There was less danger from the Indians, and the energetic New Englanders had had the time and the opportunity to develop into shrewd traders whose ships swept the seas bringing home Negroes, rum, and mahogany, in return for dried cod, pickled mackerel, whale oil and whale bone, masts, boards, shingles, turpentine and pitch. Although it was still true that among New Englanders any ostentation called forth unfavorable comment, they laid up wealth and were able to build themselves comfortable houses. Living more as prosperous Englishmen did at home, they found it natural to copy English styles in architecture, furniture, and dress, and to reflect in their life the spirit of the England of the Georges.

#### HOUSES

In the preceding century the pioneer had built his house as best he could, with little regard for style, although some of the houses may have shown traces of Gothic and Tudor influence. But eighteenth-century houses were designed with due attention to the canons of a particular style of architecture, known as the Georgian since it flowered in the reigns of the first three Georges. It was the somewhat belated expression in architecture of the spirit of the Renaissance. From the "glory that was Greece, and the grandeur that was Rome," by way of the Italian Renaissance architect Palladio, the ancient ideas of beauty and harmony found a new expression at the hands of such Englishmen as Inigo Jones and Sir Christopher Wren.

Beauty, in the eyes of the Greeks, lies in proportion and symmetry rather than in elaborate decoration. In the Georgian house, both English and American, the noble proportions and the simple, four-square ground plan express this principle. Classical models, however, were not taken over in their entirety, but were modified and tempered to suit the requirements of the times and localities in which they were utilized. One of the chief charms of the Georgian style is that at its best it offends neither ancient nor modern canons

of good taste. As adapted to suit the pretensions of the well-to-do in eighteenth-century England and America, it expresses the stateliness and formality of a courtly, polished and somewhat artificial age.

The colonial carpenter-architect cleverly worked out in wood, a more convenient material, what his fellow craftsman in England worked out in stone. In New England, white frame Georgian houses predominated; in most cities and in many parts of the South, the typical American Georgian house was of red brick with contrasting white woodwork. In virtually all Georgian houses, North or South, roofs were less steep than in the previous century, and not infrequently had high, narrow dormer windows set in them. The old casement windows which so often in the previous century were placed without regard for regularity, gave way to sash windows uniform in size and regularly placed, and sometimes surmounted by pediments.

Except for cornices, balustrades, and cupolas, the only elaborate exterior decorations—based on the generous use of modified classical motifs—were usually concentrated on the doorways.

Inside the house, the same motifs were used in the decoration of mantels, overmantels, ceilings, and stairways. For most of the rooms, in addition to beautiful paneling and wainscoting, had exquisitely carved cornices and modelings. Some of the finest woodwork showed in the banisters. Although the handrail was usually left plain, the spirals of the spindles were of different sizes, in regular succession, a spindle with small spirals being followed by one or more with large ones, and so on.

These houses often had four rooms to a floor, with a stair hall or a large hall running through from front to back, the precursor of the stately halls of the latter part of the century.

From about 1720 when it first came to America, to about 1740 or 1745, the Georgian style was robust and bold, sometimes even heavy. In the next twenty or thirty years the carving became finer and more elaborate with greater emphasis on the classic. And as the houses became more refined, the exterior parts became more elaborate. The roof sprouted a balustrade. Plain at first, doorways grew rich and ornate. The beautiful double swan's-neck motif over the doorways, and the graceful fanlight, made their appearance. Windows widened, letting in more light. Like its occupants, the house acquired a polish.

Yet, no matter how prosperous they might become, it was not in the nature of the great-grandsons of the Puritan settlers to make a display of luxury. In New England, therefore, the Georgian house evolved more slowly. It is an interesting example of a transitional type. The old farmhouse style persisted, with the addition perhaps of a Georgian door, or some Georgian windows. Moreover, in that country of many trees, the use of wood was both convenient and economical and proved a habit too strong to be modified, so New England houses retained their plain clapboard exteriors.

The interiors of these unpretentious-looking houses, however, were as beautiful in the profusion and delicacy of their paneling and carved decorations as Georgian houses in the Middle Colonies or Tidewater Virginia.

Shortly before the Revolution, Colonel Jeremiah Lee of Marblehead built himself a fine house overlooking the harbor, surmounted by a cupola from



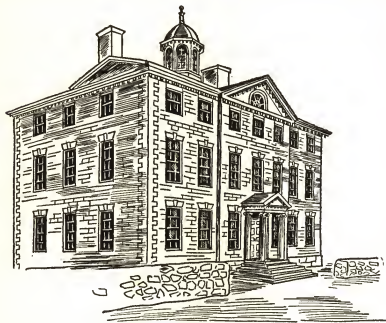
A DOORWAY OF OLD SALEM

Salem's doorways were as friendly and hospitable as her merchant princes. Too, they had a distinctive charm due to simple dignity, splendid proportions, refinement of detail, and precision of workmanship. In the doorway of the Lindall house, built in 1747, the Doric, severest of orders, is used in the treatment of the fluted pilasters, and the pediment depends entirely on planed moldings for decorative effect. As entrance halls became larger, and stairs more worthy of display, glass replaced the upper panels to admit more light.

which he could watch his ships come in. Three stories high and containing no fewer than fifteen rooms, it cost ten thousand pounds, a large sum in the colonies, and constitutes a fine example of New England Georgian architecture.

It was built of brick, but, as was often the case, the walls were covered with large clapboards painted and sanded to look like gray stone. Under a

small pillared portico the heavy front door gives into an imposing front hall around whose walls runs a wainscoting in solid mahogany waist-high, with wallpaper (rare at that date) above it, depicting antique ruins in softly blending tones of gray. At the rear of the hall is a wide staircase with finely turned balusters, and delicate carving and panels. At the landing, a spacious



THE JEREMIAH LEE HOUSE

A good example of the New England Georgian style is the sedate abode of that renowned host and famous merchant skipper, Colonel Jeremiah Lee, on Washington Street in Marblehead, Massachusetts, which was built just before the Revolution. The costliest mansion ever to be erected in the town, it boasted a cooking house, stables, and quarters for slaves.

Finely carved woodwork and rich paneling embellish the interior.

and lofty window flanked by Corinthian columns lets light into the hall. A white and gray drawing room, at the right of the hall, contains a fireplace decorated with Corinthian pillars rising to the molding on either side. On the left a banquet hall is paneled from floor to ceiling in natural pine. The big open fireplace and mantel are decorated with well-placed, finely carved festoons of fruit and flowers, more elaborate than most of the carving done during the period. On the next floor is a state chamber, used also as a ball-room, paneled in wood of dark finish. Over the fireplace is a shelf on consoles with a finely carved ornate panel above it. Many of the fireplaces are gay with pictured tiles in various colors. Secret stairways and passages, and

panels with hidden hinges, bear testimony to the troubled times that preceded the Revolution.

In the first half of the eighteenth century, the meetinghouse gave way to the colonial type of church after Wren and James Gibbs, with its pulpit at the end, and galleries on two or three sides. Its tall columns and high, graceful steeple give the New England town a distinctive charm.

## FURNITURE

The change in manner of living of the inhabitants of New England from the end of the seventeenth century to the Revolution, was reflected by what



A "ROCKER"

The origin of the rocking chair is a moot question. Its invention has often been attributed to Benjamin Franklin but some authorities declare that it was known in France near the beginning of the eighteenth century, where it went under the quaint name of "Inquiétude." Perhaps because it enabled the American to keep on the move even while taking his ease, it became a national institution, especially in New England. In this homely model, the rockers are obviously an afterthought.

went inside the house as well as by the house itself. Furniture underwent an evolution just as houses did, from the simple and merely useful to the more elaborate and decorative.

This was mostly true of the large towns and cities, however, for of course in the country plain homemade furniture continued to be the rule. During the long winter evenings some of the men of the family turned carpenter, hewing chair seats from white wood planks and fashioning spindles from hickory cut on the wood lot. Legs and stretchers could be bought already turned at the store as "chair parts" at so much a bundle,

The demand in the cities, on the other hand, for furnishings appropriate to the growing prosperity of the colonists and the increasing formality of their homes, attracted many skilled joiners, cabinetmakers and wood carvers from England. They brought the Dutch-English styles of William and Mary and Queen Anne with them—sometimes literally, in the form of sketches wrapped around their tools. Unknown to us by name, these men were the worthy precursors of the great American eighteenth-century cabinetmakers.

It was in this century that the art of making fine furniture by hand came to full flower. The work of the best American craftsmen compared favorably



LAMPS AND LANTERNS

For a long time oil lamps and lanterns were smoky and ill-smelling until, about the beginning of the eighteenth century. But it was Benjamin Franklin—again!—who discovered, it is said, that two wicks burn better than one. To prevent a suitor staying too late, a New England father was careful to regulate the quantity of oil in the parlor lamp.

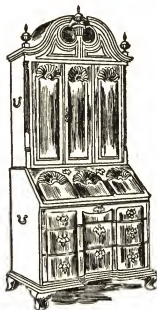
with that of the best in Europe. Despite the fact that much of the finest work was that done in Philadelphia, at that time the most important and the most cosmopolitan city in the colonies, New England was very much to the fore in furniture making, and from 1700 to the outbreak of the Revolution New England furniture found a ready sale throughout the colonies. Ship captains performed the function of furniture salesmen, and so thoroughly involved were coastwise vessels in the furniture business that in slack seasons the sailors would turn to and make chairs and tables in imitation of the merchandise they usually carried.

Newport, Rhode Island, a port which owed its prosperity to such maritime pursuits as privateering, whaling, and the traffic in slaves, was the home of one of the country's outstanding families of cabinetmakers, the Townsend-Goddard dynasty. One of its members, John Goddard, is considered by many to have been the best cabinetmaker in America in the eighteenth century.



A Quaker, he married the daughter of Job Townsend, another Quaker furniture maker established in Newport with his brother Christopher. The latter also had a son, who worthily carried on the family tradition.

The four worked chiefly in the Queen Anne style, which is distinguished by simplicity, solidity, and graceful curving lines. This is exemplified in the legs of chairs and other pieces, known as cabriole legs, because they are



A BLOCK FRONT SECRETARY

A piece of "block front" furniture is divided into three vertical parts of equal width, the outside parts on either side usually being convex in shape and the middle part concave. The parts were not made of separate strips of wood as they would be today, but of one piece, thick enough to allow for the curves in the outer surface, although some had glued blocks applied to the surface.

shaped like a shallow curving S. (The name comes from the French *cabrioler*, to cut capers.) Chair backs were curved and the splat or central part of the back was usually cut out in the general shape of a vase with simple outlines.

No example of Christopher Townsend's work has been found, but there exist today six chairs and a secretary which were made by Job. The backs of these walnut Queen Anne chairs are fiddle-splatted, which means that the central part is shaped rather like a fiddle, and the seats widen a little toward the front and have rounded corners.

In the larger, heavier Queen Anne pieces, such as chests, chests-on-chests,

and desks whose drawers start almost at the floor, the straight leg is more frequent. Highboys had cabriole legs and curving skirts.

The most characteristic decorative motif, the shell, appeared on the knees of chair legs, the backs of chairs and the top drawers of chests of drawers and kneehole desks.



A GRANDFATHER CLOCK

When people decided to protect the long pendulums of clock movements with cases, the grandfather clock was born. With its moldings and columns and handsomely decorated brass dial it adorned the home of many a well-to-do eighteenth-century New England family; for decades common folk had to get along with sundials, hourglasses, and, later, turnip watches.

John Goddard is famous as the originator, in America, of what is called "block front" furniture, his finest pieces in this genre being secretary desks. At first Goddard confined himself to fairly plain designs, a shallow undecorated block front, with an occasional carving, usually simply a shell, somewhere else on the piece of furniture. As he became more sure of himself he made his pieces more complicated with deeper blocks and more elaborate shell carving, putting a shell on each block, concave or convex according to

the shape of the block. His tall, solid secretary desks might easily have looked clumsy and top-heavy had he not possessed such an excellent sense of proportion; in his execution of "block front" pieces he reveals higher artistry and craftsmanship than any maker of that genre in England.

During the Queen Anne period, walnut was the favorite wood for furniture. Native woods were popular—Virginia walnut, maple, cherry. The use of mahogany began in 1710, a decade earlier than in England. Shortly before the middle of the century, such quantities of mahogany were brought from Barbados and Santo Domingo in trading schooners, that it came to replace walnut in general esteem.

Although it was not until after the Revolution that New England became the center of the clockmaking industry, Boston had several outstanding clockmakers early in the century, and tall "grandfather" clocks and large clocks for meetinghouse spires were already being fabricated. Generally, however, clockmakers made only the movements, which they peddled direct to the householder. The latter could choose between having a case made by a cabinetmaker, or letting them hang on the wall the way they were, in which eventuality they were known as "hang-up movements" to the trade, and "wagon-on-the-walls" to the laity. Steeple clocks like the one in the Old North Church by which Paul Revere timed the start of his famous ride, were paid for by popular subscription, although here and there townsfolk objected to paying their share on the ground that they lived too far away to be able to read the time. Early makers of tall clocks were the Cheney brothers of East Hartford, Connecticut, in whose shop John Fitch, inventor of the steamboat, worked as an apprentice.

The peddling of clock parts marks the beginning of that great institution, the Yankee trader. Some of the biggest fortunes in America were founded by men who made their way all over the country on foot or by wagon, peddling goods from house to house. In back-country hamlets and along little-used roads it was not uncommon to see wagons loaded with clocks, hardware, guns, hats, boots, dry goods, and furniture.

"Why is the dust in such a rage?" asks a versifier of the day, and goes on to answer:

"It is the yearly caravan  
Of peddlers, on their pilgrimage  
To Southern marts; full of japan,  
And tin, and wooden furniture.  
That try to charm the passing eye  
And spices which, I'm very sure,  
Ne'er saw the shores of Araby.  
Well skilled in that smooth eloquence  
Are they, which steals away your pence."

## CLOTHES

If one of the early settlers could have revisited the colony a hundred years later, he would hardly have recognized his descendants. Vanished was the religious simplicity and austerity of the Puritan costume, and in its place were more elaborate and luxurious habiliments than have ever been seen in New England before or since.

The latest styles and the finest materials came across the Atlantic from England and France. Trading ships plying farther afield brought rich new textiles from the Orient; nankeens from Nankin in China, and calicoes from Calicut in India.

The features that had made their appearance in the male costume in the latter part of the seventeenth century were now emphasized and exaggerated. Previously there had been only a suggestion of a waistline, and of fullness in the skirts in men's coats. Now the waistline was well defined, and the



VARIOUS TYPES OF WIG

In the eighteenth century, gentlemen who were careful to follow the fashion no longer burdened their pates with towering and cumbersome wigs. Curls were usually made on little rollers of pipe clay, known as *roulettes* or *bilboquettes*. These could either be put "in curl" hot, or the whole wig could be gently toasted in an oven.

skirts reinforced with buckram (coarse linen or cloth stiffened with paste) to make them stand out even more.

After the middle of the century, however, a reaction set in. Coats grew plainer and straighter again, and vests shorter, though they still reached below the hips. Pockets on both coat and vest, which had been only a few inches above the knees, moved up almost to the hips. Knee breeches continued to be worn throughout the eighteenth century.

"Ye wearing of extravagant superfluous wiggles," which had so distressed the good Samuel Sewall, and which a Puritan meeting as late as 1721 had declared to be "altogether contrary to the truth," continued until just before the Revolution. It then became the fashion to dress one's hair in a queue, or wear it in a bag of dark silk tied with a black ribbon bow, a style which can be observed in most of the portraits of Washington. Everyone wanted to

have the longest possible queue, and sailors were in the habit of tying theirs in eel skins which they thought would make them grow.

The two- and three-cornered cocked hats of slightly varying shapes had by now replaced the round-brimmed hats of the seventeenth century. The



#### A GENTLEMAN OF THE EARLY EIGHTEENTH CENTURY

At the beginning of the eighteenth century, a New England aristocrat wore an embroidered coat reaching to the knees, and wide sleeves turned back into deep cuffs. The unusually full skirt was stiffened with buckram at the sides. As the prosperity of the Colonies grew, the deep pockets moved up, possibly, as one historian suggests, for "the pleasure of clutching one's money."

top hat made its appearance just before the Revolution. Shoes had pointed toes instead of round or square ones, and all sorts of buckles.

Swords continued to be worn and canes came into fashion. At first the latter were extremely ugly, with hideous faces carved on their tops. In cold weather men carried small fur or cloth muffs.

Imagine an early eighteenth-century dandy stopping at a tavern for news, and, incidentally, to show off his new "campaign wig" from France. Its stiff white curls hang down in front of his shoulders. His knee-length coat, wide and stiff in the skirt, has gold buttons on it, and ruffles hanging from the

deep cuffs. He wears a lace cravat, a fine Holland shirt, and an embroidered waistcoat which follows the shape of his coat but is a few inches shorter. His broadcloth breeches have paste buckles at the knee. His white silk stockings are held up by velvet garters, and he wears red-heeled black shoes with paste buckles. Over one arm is a long blue cloak which he has taken off on account of the warmth of the tavern fire, and in one hand he holds his black felt cocked hat trimmed with gold lace. His silver-headed cane is resting against a chair.

In 1741 the wardrobe of one William Bennett consisted of a suit of fine black-colored broadcloth clothes valued at £35; a suit of gray Duroy, £20; a coat and breeches of gray cloth, £12; blue cloth coat, £2.10s; light-colored cloth coat, £5; dark frieze coat, £3; an Allipeen speckled jacket, breeches, £9; red Whitney jacket and breeches, £1.10; white plain fustian jacket, £2; brown Holland coat and jacket and three pairs breeches, £2. Captain Samuel Osgood, at about the same time, had a suit of red, a suit of blue, a dark-green coat and jacket, an "old white coat with camlet and fustian jackets," yarn and worsted stockings, and one linen and six cotton shirts. Just before the Revolution Adam Winthrop's rather scant wardrobe consisted of a black coat and waistcoat valued at £12; six ruffed shirts valued at the same amount, one Holland and one dimity waistcoat, and an old gown.

It was not until the middle of the century that women's clothes also became extreme in style. Fine imported materials were made into low-necked dresses with tight bodices and full, hooped skirts, usually one-piece and closed, but occasionally open in front to show an elaborate petticoat which sometimes was quilted. Sleeves were elbow-length, with lace ruffles.

These hoops spread out the lutestring skirts "like a fishing smack in full sail"—sometimes to a diameter of as much as four feet. They began to go out of fashion in 1778. In one Massachusetts town when an earthquake occurred, the people were "so awakened by this awful Providence that the women generally laid aside their Hoop Petticoats."

Shortly after the middle of the century when a wave of French fashions in both furniture and clothes invaded America, women wore "pompadours"—hooded satin or velvet cloaks, with slits for the arms. When the fashion came in of using silk-covered cushions stuffed with wool in dressing the hair, ordinary hoods and hats could no longer be worn, and the calash came into favor—a sort of hood which could be folded back like the top of the vehicle of the same name. Often as not, the calash was of green silk. Although it was cumbersome and awkward, one gentleman gallantly observed that looking at a lady in a calash was "like looking down a green lane to see a rose blooming at the end."

The fashionable lady had many accessories to carry at this time, including patchboxes—small thin boxes of silver, tortoise shell, or ivory, with a tiny mirror inside the lid; a small case for thimble and scissors; and a pomander

or pouncet box with small holes in the lid for perfume. Doctors carried pomanders containing powdered disinfectant in the tops of their canes—a tap on the floor and the air was full of disinfectant.

Primitive umbrellas of oiled linen with rattan sticks made their appearance about the middle of the century. But when a lady of Windsor, Connecticut, had the temerity to display one her attentive husband had brought from the



"A PAIR OF BODICES"

In the eighteenth century, women were straight-laced. Stays—originally known as "a pair of bodices"—were an indispensable part of every feminine costume. And fearsomely tight and stiff they were.

West Indies, the neighbors made fun of her by carrying sieves balanced on broom handles.

Here is the inventory of the effects of Mrs. White of Norwich, Connecticut, in 1757:

"... gowns of brown duroy, striped stuff, plain stuff, black silk, crape, calico and blue camlet; a scarlet cloak, blue cloak, satin flowered mantle, a furbelow scarf; a woolen petticoat with calico border, a camlet riding-hood, long silk hood, velvet hood, white hood trimmed with lace, a silk bonnet, and 19 caps; a cambrick laced handkerchief, silk handkerchief, linen handkerchief, sixteen handkerchiefs in all; a muslin laced apron, flowered laced apron, green taffety apron, 14 aprons in all; a silver riband, silver girdle, blue girdle, four pieces of flowered satin, a parcel of crewel, a woman's fan, a gold necklace, death's head gold ring, plain gold ring, sett of gold sleeve buttons, gold locket, silver hair peg, silver cloak clasps, and a stone button set in silver; a large silver tankard, silver cup with two handles, a cup of one handle, and a large silver spoon."

Dressed with great formality, children were miniature replicas of their

parents. A pair of stays has come down to us that were for a two-year-old girl. Among several portraits of children painted by Joseph Badger of Boston in the 1750's is one of a little girl three years old, all in white except for her shoes. The tied and pointed bodice, with its low neck trimmed with muslin ruffles, has short sleeves with cuffs and undersleeves of muslin, and there are ruffles at the waist. The skirt reaches to her toes, which are encased in grayish-blue satin slippers.

A picture of a boy six years old shows him in coat, knee breeches and waistcoat like those of his father. Coat and breeches are dark brown—and the coat has silver buttons on it—the waistcoat is bluish green, with a white ruff around the neck and white ruffles fastened with gold buttons around the wrists. White stockings and black shoes with gold buckles, and a black cocked hat trimmed with silver braid, complete the ensemble.

Leather breeches, coats of fustian or some other rough material, and waistcoats that flapped around the knees, with huge pockets, marked the common man; homespun, the farmer. Women servants went about their work in some sort of woolen petticoat and overdress of calico. Both men and women wore worsted stockings and very coarse leather shoes, sometimes with cheap metal buckles. The skins of animals were used for men's waistcoats and breeches, women's jerkins and petticoats.

It was customary to give scarves, gloves, and rings to mourners at funerals, and persons who performed the tedious duty of watching the corpse came to look on them as perquisites. A typical entry in Judge Sewall's diary reads: "Mar. 8, 1711. Mrs. Abigail Foster is buried. . . . Bearers . . . Scarvs, Rings, Escrutcheons. Councillour and Ministers had Scarvs." Over a thousand pairs of gloves were given away at the funeral of Governor Belcher's wife in 1736.

## FOOD

What people ate did not change essentially from one century to the other, but there was more variety. People ate beef, veal, mutton, lamb, pork and chicken, much as they do today. Gardens were green with vegetables; orchards luscious with fruit. Game was prolific and near at hand: turkey, pheasant, partridge, woodcock, duck, hare and deer. All kinds of fish could be had from ocean, shore, lake and stream. And gradually it became possible to bring in from foreign climes exotic fruits such as lemons, oranges and limes.

Common folk had to content themselves with a fare of salted meat, fish, beans and pudding. The "New England boiled dinner" of salt meat and cabbage and perhaps one other vegetable, served as one dish, usually in a wooden trencher, was already in existence. During the winter people ate pumpkins that had been baked in the ashes of the open fire.

What went by the strange name of "turtle frolics" took place in seaport towns like Newport. Ship masters returning from the West Indies brought



huge turtles, which were cooked and served in the middle of the day, followed by tea and dancing.

Of Boston women an observer wrote in 1740: "They are not much esteemed now that will not treat high and gossip about. Tea has now become the darling of our women. Almost every little tradesman's wife must sit sipping tea for an hour or more in the morning, and maybe again in the afternoon, and nothing will please them to sip it out of but china ware, if they can get it. They talk of bestowing thirty or forty shillings upon a tea equipage, as they call it. There is the silver spoons, the silver tongs, and many other trinkets that I cannot name." Although tea was the more common until the Revolution, coffee came to equal it in popularity.

## AGRICULTURE

At this time agriculture had progressed little beyond the previous century, and, for that matter, little beyond the practices of the previous two thousand years. A prosperous New England farmer could afford a great variety of implements. But they were still extremely crude. He rarely troubled to put fertilizer on his fields, and crop rotation was unknown. The farmer planted the same crop year after year, choosing the planting time by the position of the moon or stars. Already, at the turn of the century, corn was showing the effect of exhaustion of the land. Nevertheless, it remained the leading crop, followed by barley, oats, rye and buckwheat. In the vegetable garden grew peas, beans, turnips, pumpkins and squash, with such luxuries as lettuce, radishes, spinach, carrots, parsley and onions in carefully nurtured patches. Many fruits grew well, with apples the universal favorite. There was no lack of cows, sheep, and pigs, but farmers gave scant attention to intelligent breeding. An average Massachusetts farm might have a dozen head of cattle, a dozen pigs, as many sheep, one or two yoke of oxen, and a couple of horses.

Tapping the trees for maple sugar was a practice borrowed from the Indians. In the early spring when the sap began to run, a semicircular spout was set in the trees about five feet from the ground, with a trough beneath it, made, Indian-style, from a burned-out log. As it collected in the troughs, the sap was removed in pails or buckets, carried by means of a yoke, and boiled in kettles over a near-by wood fire.

## TRANSPORTATION

Until the Revolutionary period roads were few and primitive. Their surface consisted chiefly of mud, dust, or ice, depending on the weather. Wheeled vehicles were rare. Men either rode or relied on their two legs which in those days seemed to be able to carry them further and with less effort than today. A man would think little of walking the twenty miles between Concord and Boston to perform an errand, and then turning right round and walking back again.

Under such conditions the only time when it was at all pleasant and convenient to travel overland, especially for women, was when winter spread a soft blanket of snow over the roads, leveling out bumps and filling in hollows, covering roots and rocks. Even so, there were few sleighs before the middle of the century, and those were little more than boxes on wooden runners. On a long trip a big chunk of frozen bean porridge would be tied to the sleigh, with a hatchet ready to hand so that the voyager might chop off a piece now and then to allay the gnawings of hunger. A one-horse sleigh was known as a pod; a two-horse sleigh, a pung. As time went on, sleighs grew fancy. Their runners took on great sweeping curves, and they were gaily decorated.

Samuel Sewall's diary records many sleighing mishaps. He describes, for instance, how "The Govr. came to Town, the way being difficult by Banks of Snow, his Slay was turned upon one side against the fence next Cambridge, and all in it thrown out, Governour's Wigg thrown off, his head some hurt, and my Son's elbow. Horses went away with the foundations and left the superstructure of the Slay and the Riders behind."

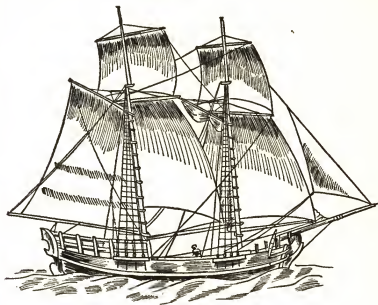
Unhappily the Governor's difficulties were not yet over. In the next year there is the following entry: "The Govr. and his Lady essaying to come from Charlestown to Boston in their Slay, 4 Horses, 2 Troopers riding before them, First the Troopers fell into the water, and then Govr. making a stand, his Four Horses fell in, and the Two Horses behind were drowned, the Slay pressing them down. . . . Many came from Charlestown with Boards, Planks, Ropes, etc. and sav'd the other Horses. 'Tis a wonderful mercy that the Govr., his Lady, driver, Postilion, Troopers escaped all safe."

For carrying rocks, stumps, and other heavy burdens through the woods New Englanders used a land sled of heavy planks curved up in front. This they called a "stone boat." With a yoke of oxen straining at its stout chains, it could navigate rough spots and ridges without danger of breaking an axle or a runner. On the roads it was still a common sight to see oxen picking their way with dainty feet—their iron shoes hardly more than two inches long—among the ruts and hollows, hauling huge clumsy carts. These were essentially platforms on wheels, with sticks along the sides around which rope was tied to keep the freight from tumbling off.

As long as the colony was dependent on Great Britain, carriages were generally imported and their use was infrequent. A few wealthy Tory families in Boston had big, cumbersome coaches, with the family crest emblazoned on the panels. For the city streets sedan chairs were occasionally used, shaped much like a tall box standing on end, with openings like windows cut in either side. They were supported by two long horizontal poles which could be carried by two or four men.

The New England "riding chair" was an open two-wheeled vehicle with a folding cover over the rear seat and a driver's seat on the dash. As time went

on it was made more comfortable through the use of upholstery and dignified by the French name for chair, *chaise*, usually pronounced "shay." With high wheels, long, springy shafts, and a calash top, it was the grandfather of the nineteenth-century "one hoss shay" immortalized by Oliver Wendell Holmes. The body was hung on long leather straps. The calash, from the French *calèche*, was a light carriage with two or four low wheels, seats for



AN EARLY SCHOONER

This picture gives an idea of how small many of the seagoing traders were even in the years just prior to the Revolution. The fore and aft rig was known before 1700, of course, and soon proved itself handier than the square; by the end of the eighteenth century the schooner was the most common type of carrier. The above is a transitional type.

two or four not counting the driver, and of course a calash top. The gig had high wheels, heavy shafts, and no springs. With a narrow seat for only one person, it was a favorite with country doctors.

Except along a few main highways, freight was carried by long trains of pack horses over narrow trails, known as "tote-roads," "pack-roads" or "horse-ways." Each horse carried a two-hundred-pound load, and one man led the train, while another, the driver, followed behind, urging on the horses and keeping an eye on the packs to see that they did not slip.

Even in the eighteenth century, a person wanting to travel between two cities on or near the coast had an easier time by water than by land. In 1762 "pacquet sloops" plied weekly between Newport and New York. The fare

was ". . . every cabin passage, one Pistole, Steerage, two dollars . . . two wheel carriage, one Pistole; Horse or Cow, one Pistole. All baggage as Customary."

Sometimes these voyages were quite adventurous, as Benjamin Franklin relates in his *Autobiography*: "About the end of April, 1724, a little vessel offered for Boston [from Philadelphia]. We struck a shoal in going down the bay, and sprung a leak. We had a blustering time at sea, and were obliged to pump almost continually, at which I took my turn. We arrived safe, however, at Boston in about a fortnight."

Nor was crossing the ocean by any means an easy matter. In his *Autobiography*, Franklin relates how he was told to get ready to sail for England on the *Annis*, "which was the annual ship and the only one at that time usually passing between London and Philadelphia. But it would be some months before the *Annis* sailed. . . ."

Eventually he finds a ship on which he can sail, but notes to his distress that "Messrs. Onion and Russel, masters of an iron-work in Maryland, had engaged the great cabin; so that Ralph and I were forced to take up with a berth in the steerage, and none on board knowing us, were considered as ordinary persons."

## INDUSTRY

Most of the things the settler used were still made in the home. One household industry that assumed fairly large proportions during this century was the making of nails and tacks. With little to do when the snow was window-high outside, the industrious country folk set up little forges in the chimney corners and beat out the shafts of nails from long iron bars, then flattened the ends to make the heads. A good worker could make two thousand tacks in a day.

Iron had been mined since the latter half of the seventeenth century. Most of it came from Massachusetts and Connecticut and was smelted at the Hope furnace in Rhode Island, built in 1735, which in addition to pots and kettles for the housewife, anvils for the blacksmith and for nail makers, tires for wagon wheels and sleigh runners, bells to summon the colonists to meeting, and weights and chains, furnished many of the cannon balls used in the Revolution. Fearful of the American market for finished products, the British Parliament in 1750 prohibited the construction of casting plants, but encouraged mining and the production of other raw materials. Bar and pig iron could be shipped to England duty free.

As early as 1728, in Connecticut, a man had "with great pains and cost, found out and obtained a curious art, by which to convert, change or transmute common iron into good steel, sufficient for any use, and was the very first that ever performed such operation in America."

Also in Connecticut, at Simsbury, copper ore was discovered early in the century. A company was organized and its management confided to some clergymen who, in the words of one chronicler, "seem to have known more about the fires of hell than of smelting furnaces." Eventually the mine was taken over by businessmen, and began to prosper.

The end of the pre-Revolutionary period saw the modest beginnings of several industries that were to make New England a great manufacturing



AN EARLY HOOKED RUG

In modest households of yesterday more than the contents of the ragbag went into the making of coverlets for the bed and rugs for the hearth and bare floor. The housewife's creative and decorative impulses found an outlet in floral patterns and representations of familiar creatures. Often they were colored from vegetable dyes made from bark and herbs. Popular in the early days, these "bright-hued fragments of discarded clothing" reached their greatest popularity in New England during the Civil War period.

center: the production of paper, leather, woolen and linen cloth, beaver hats, and the distillation of rum.

These infant industries, however, do not explain the material rise of New England in this century. Nor does the laborious scratching of a poor and rocky soil which gave back little more than enough to support life. The great source of New England's prosperity was the sea.

Most of the colonial ships bound for distant ports set sail from New England, the shipbuilding center of the colonies. Moreover, since ships could be built from 20 to 50 per cent cheaper than in Europe, an impressive proportion of the ships flying the Union Jack had been turned out in New England yards.

Since speed was unnecessary as long as they were protected by the convoy system of the Royal Navy, most American ships before the Revolution were small, chunky, and slow. Navy or none, the high seas were dangerous, and every merchantman carried an armament of three- and six-pounders. A sail on the horizon might be only a slaver or a government vessel, but it could just as well be a privateer or pirate. The distinction between these ships was vague, and highhanded seizures of merchantmen frequent, no matter what

the technical rating of the marauder. Merchantmen prepared for defense as carefully as for carrying freight.

In colonial days ships were only loosely classified. In the same ship's papers a given vessel might be referred to in one place as a bark, elsewhere as a brigantine, but the different types can be fairly well identified by referring to their English counterparts. Most of the colonial vessels were sloops, that is to say, with a single mast, fore-and-aft, and generally between 25 and 70 tons



THE HATTER'S BLOCK

In pre-Revolutionary times, a beaver pelt, a block like this, and plenty of elbow grease was about all that was needed to make a hat. The craftsman began by making a conical "bat" of fur which was soaked and beaten into a felt, after which it was shaped. Yankee hatters thrived to such an extent that their British rivals became worried about the market, and Parliament passed restrictive measures which, however, did not put the lid on the American hatmaker.

burden. The mast carried a gaff, mainsail, two or three headsails, a square topsail and "course" or square lower sail. Brigantines would run from 30 to 150 tons, their rig consisting of square sails on the foremast and fore-and-aft on the main. However, many ships actually rigged as brigs and schooners were called brigantines.

Square-rigged on both masts, the brig had a gaff spanker on the mainmast below the usual square sails. The word bark referred to a type of hull, a heavy, square-sterned ship, which might carry any of the usual rigs.

A legend, probably apocryphal, has it that the schooner was invented by one Captain Andrew Robinson who built and launched the first one at Gloucester in 1713. A spectator at the launching exclaimed, "Oh, how she schoon!" and Captain Robinson answered, "A schooner let her be." As a matter of fact the schooner rig had appeared considerably before that date, but it is true

that the schooner was the first distinctive type of ship to develop in New England, and was, by the time of the Revolution, the most common type on the water. The schooner is a two-masted vessel with fore-and-aft sails on booms and a jib forward.

Chebacco boats—fishing vessels from the mouth of the Chebacco River, Cape Ann, where the type originated—were not over thirty feet long, double-ended with a sharp stern, and rigged with two masts stepped well forward, making a headsail unnecessary. They were seaworthy and easy to handle. The "pinky" was of the same type, but larger and better, of 20 to 60 tons burden, and carried bowsprit and jib.

Baltimore clippers, originating around 1730 as sloops, and changing shortly thereafter to schooner rig, were the predecessors of the great Yankee clippers of the next century. With their sharp lines, the Baltimore clippers showed more speed than any other vessels afloat.

Ships were still often built inland. The *Country's Wonder*, built in Rowley, Massachusetts, was hauled a mile and a half to the river by more than a hundred yoke of oxen.

Ships continued to be sent to sea with "turpentine sides" i. e., unpainted, just as in the early days.

Eighteenth-century ships had primitive navigating equipment. The octant had been invented in 1730, but there is no mention of the spyglass until 1734, and until John Harrison perfected the chronometer in 1767 time was measured by large sand glasses known as sea clocks, like those used in old colonial churches. They were essentially hourglasses fitted with eyes above and below so they could swing from a hook and be easily turned. The British, in whom tradition dies hard, used them on warships as late as the first third of the nineteenth century.

Captains didn't always depend on navigating equipment alone. Before setting sail they would sometimes hire an astrologer or conjuror to "cast a figure" or make an elaborate horoscope to determine the most fortunate hour of sailing, and no matter how inconvenient that hour might be with regard to light, tide, or wind, then it was that the ship put to sea.

While the most important industry in New England was fishing for cod, it was not unusual for a Yankee skipper to make a profit in other ways. He might deliver a cargo of dried fish in the West Indies, load up with sugar and molasses, then sail to Europe and sell everything at top prices. Sometimes he even found it worth while to sell the ship as well, and come home in a chartered British ship with a cargo of British goods.

A little before the beginning of the eighteenth century Yankee initiative was responsible for the development of a form of enterprise which was to transform the nature of life in the Southern colonies and plunge the country into a bloody civil war. As early as 1676 traders from New England sailed for

Guinea and Madagascar returning with cargoes of black men. Rhode Island, settled by men of a more tolerant and liberal turn of mind than the early Puritans, had the dubious honor of being the largest slave market. One reason slavery was not practiced to any considerable extent in New England itself was that the Negroes were fit only for such elementary tasks as picking cotton and tobacco, and were useless in a cold, rugged and difficult country where men had to be able to do many different things. While most of the traffic in



A SHIP'S FIGUREHEAD

In every New England port there was a skilled carver of ships' figureheads. Female figures predominated; at first they tended to be symbolic, later, actual portraits. To the discarded sail loft where the carver lived, would come the shipbuilder, who chalked the forepart of his ship on the floor. And the next visitor might be the captain's daughter, to serve as a model.

Negro slaves was in the hands of the assiento monopoly, it is true that a merchant as respectable as Peter Faneuil, who built Faneuil Hall in Boston, was not above owning a slave ship, and some New England fortunes were actually built on the African slave trade.

Privateering was another lucrative practice which was connived at even in time of peace. Light but weatherly ships, usually rigged as topsail schooners so as to carry a large spread of canvas, they had a small battery and a sizable crew. Catching up with a merchantman, they would fire a shot or two, and then, if necessary, come alongside and board her, leaving a prize crew to sail her home. No matter how great the risks, the rewards were even greater, and many young men of good family shipped on privateers. They were not ex-



pected to do much in the way of sailor's work, but to be to the fore when it came to hand-to-hand fighting with the cutlass and saber.

Privateering tended to develop the quality of boldness to a high degree. In 1777 an American privateer sailed across the Atlantic to the Jersey Islands in the English Channel and captured a valuable English brig inside one of the harbors there under the very guns of the castle. And by way of adding insult to injury the crew of the privateer's longboat captured two English officers who were out shooting rabbits on a near-by island.



ROCKING HORSE

Whose games did this tiny steed inspire? What child, long passed away? Colonial mothers and fathers often asked for toys for their children in their letters to England, and the single toy shop that flourished in Boston in 1743 was probably one of a very few in all the colonies. As time went on, American ships that roamed the seas began to bring back strange, often crudely made models of horses, carts, chariots, and strange animals, and in the nineteenth century toys were turned out in increasing quantities by local craftsmen.

The whaling industry provided a glorious chapter in the annals of American shipping. Though whaling as an industry had its beginnings in the seventeenth century, it had for a long time been practiced by the Indians. When a whale was sighted offshore, the redskins would all set out in their frail dugouts and impede its progress with wooden harpoons tied to wooden floats, or droges. This done, they kept up with it as best they could, thrusting at it with their lances in the hope of weakening it through loss of blood. Often the whale got away.

When the settlers began whaling with heavier boats and more efficient tools they employed Indians. At Southampton, Long Island, Indian whalers were employed as early as 1650, and they continued to be employed on whalers until long after the Revolution. The cry "Awaite Pawana" (here is a whale), was for a long time a familiar sound in distant waters.

The first whale oil was obtained from the carcasses of dead whales that had drifted ashore, but after 1700 the sailors of New England would watch

for whales along the coast and then give chase in small boats. The half-buried spars that are still to be seen here and there along the coast were sometimes used as lookouts.

When Christopher Hussey was blown offshore in a gale in 1712 he was repaid for his ill luck by the capture of a new kind of whale, the sperm whale or cachalot, which carried in its enormous head a spongy substance containing oil. This sperm oil was lighter and purer than ordinary whale oil, and John Adams said of it that "it gave the clearest and most beautiful flame of any substance known to nature." It was used for lighthouse beacons and street lamps, and by the middle of the century factories grew up for the making of sperm candles.

By the time of the Revolution there were over three hundred ships and four thousand sailors engaged in whaling. Most of them hailed from Nantucket, New Bedford, Marblehead, and Provincetown. In fact, the ships that brought the tea that was thrown overboard in the Boston Tea Party were American ships on a return trip, having sailed from Nantucket to England with a cargo of whale oil. On the same day that the shot "heard 'round the world" was fired at Lexington, the first American whaler crossed the equator.

Whale boat "steerers" in Nantucket wore chock pins on the lapels of their coats, and they were the envy of small boys and amorous maids. The chock pin was a small wooden peg used to hold the whale line as it was being drawn out through the bow of the boat by a harpooned whale. There was a time when a Nantucket maid would scorn a suitor if he hadn't got his whale, and the road to fame and fortune was to begin as cabin boy on a whaler, or before the mast, working up to the berth of captain, and finally, in dignified old age, giving up the sea to become a whaling merchant.

In the various seaports from which this pursuit was carried on, "The water front was a scene of constant activity, being lined with warehouses, oil refineries, candle and candlebox factories, coopers', carpenters', blacksmiths' and boat builders' shops, rope wells, sail lofts, outfitting, hardware and grocery stores, ship chandlers . . . all busy and prosperous. Packets to Boston, New York, New Bedford and other ports were constantly arriving and departing. . . . Great drays, loaded with casks and merchandise, rumbled all day over the cobbles, and the wharves were piled high with goods in hogsheads, bales, and cases. Everything smelled of tar and oil, and the air resounded with the varied noises of a great industry, the sounds of the carpenters' and coopers' hammers or the caulkers' mallets, the shouts of the workers and the chanties of the sailormen."

## LIFE IN THE COMMUNITY

The center of spiritual, cultural and social life in New England in the eighteenth century was still the church or meetinghouse. Fairly typical is the





### A HUSKING BEE

Our ancestors sensibly made tasks done in common the occasion for jollity. At harvest-time, for example, neighbors were invited from miles around to help husk the corn. In the dimly lighted barn, master and man, young and old, youth and maiden, broke the ears off the stalks, stripped the husks from the ears, heaped up the cast-off husks, and filled baskets with the golden ears, to the accompaniment of badinage, pranks, and flirting. Tradition has it that he who found a red ear could kiss the girl of his choice. This wood engraving of a New England husking bee is by Winslow Homer; it appeared in *Harper's Weekly*, November, 1858.

Old South Church in Boston. Built of brick, the main building, the tower, and the spire are all very plain. There are two rows of windows on each side, made up of small panes, with round arches at the top. On one side is the pulpit and around the other side and the two ends runs a gallery. The pulpit was simply a raised platform; there were no real pulpits in most New England meetinghouses until after the middle of the century.

Of a different type was King's Chapel, which, in the eyes of conservative Bostonians, was "so magnificent and so luxurious as to be a blot upon the religion of Massachusetts." The walls were decorated with banners, escutcheons, and coats of arms of the King of England, of the nobility and gentry of the congregation, and of the Governor of the Province. Each member paid for the building of his own pew and had it built according to his own ideas, which resulted in a somewhat disturbing lack of uniformity.

Pews, which had begun to replace benches early in the century, were assigned by a committee after the most careful consideration of the eminence of the holder, based upon his rank, estate, office, age, and contributions toward building the church and toward the minister's salary.

In the churches which had adopted psalm-tune books with printed music, the more musical members of the congregation would gather in one place, usually the gallery, and so choirs came into existence. Psalm-singing was looked upon as a form of entertainment by New Englanders, and ended every religious or festal occasion. One person, presumably a reputable citizen with sound lungs, would be asked to "pitch the tune." Samuel Sewall's services were often in demand for this purpose. "April 15, 1709, Madame Winthrop sends Mingo to invite me to the meeting at her house," he notes in his diary, adding, ". . . Sung St. David's Tune which I set. Drunk Ale, Tea, Wine."

In 1713 a wealthy Boston merchant, Thomas Brattle, imported for his own use the first pipe organ ever to be seen in the colonies, and at his death left it to the Brattle Street Church. But the vestry of the church refused the gift on the grounds that to have an organ in church would be a disgrace, so it was offered to the more sophisticated King's Chapel, whose vestry not only accepted it but sent to England for a "sober person to play skillfully on the organs with a load [sic] noise." History has not disclosed what was wrong with the person chosen for the post, but a year later the vestry were sending over to England for another "sober" organist.

Although, as the diffidence of the parishioners of the Brattle Street Church indicates, there was still a prejudice against music, the first public concert in the colonies was given in 1731 in Boston. By the middle of the century the city had a regular concert hall.

Outside of the meetinghouse and the Thursday lecture, country folk entertained themselves as they had in the previous century, by gathering together

while they worked; at husking bees, sewing bees, and the like. In the larger towns, however, the restrictions against amusements underwent a transformation and entertainment became more varied. Billiards was popular, dancing, no longer shunned. At one wedding the festivities did not come to an end until "45 minutes past midnight, at which time there had been no less than ninety-two jigs, fifty-two contredances, forty-five minuets, and seventeen hornpipes."

One of Samuel Sewall's entries reads: "This day Burlesque companies out upon Hull-street, in a Travestie construing my Latin verses." In 1750 an amateur production of a play was given in a State Street coffee house, drawing a crowd that stormed the doors and almost started a riot. The General Court immediately passed a law forbidding acting within the Commonwealth and rendering even the spectators liable to a fine.

Another community center was the tavern, where men met to talk and exchange news, and later plan resistance to British tyranny. Such a one was the Eagle Inn at East Poultney, Vermont, where Captain William Watson proposed the toast: "The enemies of our country! May they have cobweb breeches, porcupine saddle, a hard trotting horse and an eternal journey."

Foregathering at the local tavern, however, was not the only means of keeping posted as to current events. It was John Campbell, a Boston postmaster, who inaugurated the custom of sending round-robin letters, written by hand, to the governors of the different New England provinces, which were eagerly watched for by the general public.

The first publication even remotely approaching a newspaper was Benjamin Harris' *Publick Occurances*, which first appeared in Boston on September 25, 1690. After that the news-letter became a habit.

Samuel Sewall writes: "I went to Cambridge to see some Books on the Revelation, . . . went into the Hall and heard Mr. Willard expound . . . and pray. I gave Mr. Willard the first News-Letter that ever was carried over the river. He shew'd it to the Fellows." The demand for them eventually became so great that Campbell was obliged to print them, and *The Boston News Letter*, the father of all American newspapers, was first published in April, 1704. Its four pages of two columns each contained news from Europe, many months old, customhouse news, and advertisements. As other papers sprang up, more space was given to local news, sermons and poetry.

The newspapers of the first half of the century were printed on paper of varying size, partly because some had a lot of news and some very little, and partly because it was not always possible to obtain a quantity of paper of the same size. The presses as well as the type were imported from England or bought second hand. Most presses could only print one sheet of paper at a time, and it took a strong man to pull the lever. Ink, too, was imported. Local printers were not successful at making it until about the middle of the century. The first printing presses made here, in 1750, were not so good as the

imported ones, and neither was the type, first cast in this country in Boston in 1768.

As far as education is concerned, the first years of this century in New England have been called the "dark days." Dame schools persisted. Few persons could spell, although at that time this was hardly a test of literacy, and many an important man had to affix his mark instead of signing his name. As time went on there were more schools and better opportunities for education. In regard to science New England may have been too much under the domination of old-fashioned theology to accept new ideas readily, and with the exception of the Mathers, who led the way in the popularization of new English discoveries, there were not many independent open-minded scholars.

Cotton Mather, in fact, combined religious superstition with a certain progressiveness. When Boston suffered one of its worst fires in 1711 he called it a warning from God to the people who did not attend the Thursday lecture. Yet he also suffered bitter attacks and physical threats from the clergy and the people when he championed the cause of inoculation. Since smallpox was considered an act of God, to inoculate a person against it was a defiance of God's will. Over the next fifty years medical knowledge spread slowly, and so did a knowledge of the laws of hygiene. Among the few dentists was Paul Revere, one of whose advertisements in the *Boston News Letter* reads:

"PAUL REVERE—Whereas many Persons are so unfortunate as to lose their fore Teeth by accident, and otherwise, to their great Detriment, not only in looks, but speaking both in Public and Private:

"This is to inform all such, that they may have them replaced with false ones, that look as well as the Natural, and answer the End of Speaking to all intents by PAUL REVERE, Goldsmith, near the head of Dr. Clark's Wharf, Boston—

"All persons who have had false Teeth fixt by Mr. John Baker, Surgeon-Dentist, and they have got loose (as they will in Time) may have them fastened by the above, who learnt the method of fixing them from Mr. Baker."

The streets of Boston were not adequately lighted after nightfall until 1772, when a committee of which John Hancock was a member, was appointed to consider the problem. He sent to England for several hundred "lamps suitable for properly lighting ye streets and lanes of ye town," to be paid for by popular subscription. The first lighthouse in the colonies was in Boston harbor, four hundred boatloads of stone having been used to erect a tower with an iron basket at its top in which "fierbales of pitch and ocum" were burned. The first keeper, who was by the same token the first lighthouse keeper in the country, was drowned in 1718 with his wife and daughter,

inspiring Benjamin Franklin, then a lad of thirteen, to write a ballad which he printed and sold on the streets of Boston. The tragedy "having made a great noise," he says in his *Autobiography*, the ballad "sold wonderfully" in spite of its being "wretched stuff."





## CHAPTER VII

### THE MIDDLE COLONIES: The Flowering of Craftsmanship

#### INTRODUCTORY

**A**LTHOUGH our country had its beginnings on the placid reaches of the James in Virginia and on the rocky shore of Massachusetts, by the middle of the eighteenth century the Middle Colonies had attained more than their share of colonial wealth and trade. Not far from Philadelphia, Germans from the Palatinate cultivated the richest land in America. In ever greater numbers, sloops laden with furs descended the Hudson. From Europe, thousands of immigrants came to New York and Philadelphia, and both cities began to reap the benefits of their unequalled location.

With increasing prosperity came the opportunity to indulge in a more gracious way of living. It is not an accident that the finest examples of American craftsmanship came to flower in Philadelphia. And in New York the design and decoration of buildings began to reflect the architectural fashions of the Old World.

#### HOUSES

When the British troops entered New York in 1776, they might have been struck by the odd appearance of the houses below Wall Street. As a matter of fact, they could have read the history of the city in its architecture as they marched along. For parts of the lower end of the city, with its wharves, warehouses, canals, windmills; its quaintly decorated dwellings with casement windows; its "mouse-tooth" stepped or curving gable ends terminating in ornamented finials, still suggested Amsterdam. But as it spread northward the city changed into an imitation of Georgian London, with square, two-story houses distinguished by cornices, quoins, and regularly placed doors and windows.

Though the Dutch part of the city was still medieval in feeling, north of Wall Street there was a predominance of English over Dutch Renaissance motifs, and even the latter, as a matter of fact, had come by way of England. The infiltration of English books on architecture and even of English architects eventually gave a complete victory to the English.

The same could not be said of the communities nestling in the Hudson and Mohawk river valleys and other outlying spots. While in the great manor

houses the English influence early made itself felt, as a general rule both town and country dwellers in the counties to the north continued to build houses that might have been picked up out of Amsterdam and set down in America. Parts of New York and New Jersey came to be dotted with cottages whose low roofs curved out over the walls in front and back, the mere sight of which suffices to recall the days of Father Knickerbocker.

Another lingering trace of Dutch days is to be found in the large, high-roofed barns, with a door in the middle of each gable end big enough for



LOG CABIN

Although it has become an American symbol, the true log cabin was unknown to Anglo-Saxon settlers in the seventeenth century. Brought to the Delaware region by the Swedes, its use spread into Western Pennsylvania, Eastern Tennessee and Kentucky and eventually to the Mississippi Valley frontier. In this early, primitive type, the logs were not hewn to flat surfaces; the floor was the bare earth; the ceiling was open, revealing the beams. The roof was covered with bark, thatch, or shingles; the fireplace of logs daubed with mud.

loaded wagons to pass through, flanked by smaller side doors on either side for horses and cows. A still more persistent survival is the Dutch haystack, having a wooden roof, supported on poles, which can be raised or lowered according to the amount of hay in the stack.

In Pennsylvania, the Jerseys, and Delaware there was an even greater variety of influences than in Dutch-English New York, cosmopolitan as it was, for here Welsh, Scottish, Irish, Germans, and a handful of Swedes and Finns lived side by side. The original Swedish settlers left little beyond a few farmhouses, some descendants of the red cows they brought over with them, and two "Old Swedes" churches, which are, however, in the English style. But since they came from a heavily wooded country, they built log cabins, and as the log cabin of the American pioneer is more like the Swedish than any other, they may have made one important contribution to the American scene.

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Fairly numerous at first were the Welshmen, whose national feeling was so strong that they sat in deliberate blankness when William Penn preached to them in English. Their houses were squat, stumpy and solid, with thick stone walls, for there were many stonemasons among them, whose hand may be seen in the combination of Georgian sophistication and Welsh ruggedness known as "rough stone Georgian."

The traveler who visits the rolling blue-green valleys lying west of Philadelphia is surprised to find himself in what seems to be a foreign country, for the descendants of the Rhineland Germans who settled there in the days of Penn cling to their language, customs and quaint decorative art. They have not, however, justified the fears of Franklin, who once wrote in a moment of pique: ". . . of the six printing presses in the province . . . but two are entirely English . . . the signs in our streets [Philadelphia] have inscriptions in both languages, and in some places only in German . . . we . . . will . . . not be able to preserve our language."

The trail of these early German settlers as they spread out in every direction can be traced by their vast barns. The ventilators disguised as cupolas, a relic of Bavarian days when the peasant's house and barn were one; the second story projecting out over the lower in front, as in the Swiss chalet, to protect implements and wagons from the weather; and the walls ornamented with the characteristic circle enclosing a whirl, quatrefoil, star or more complicated geometrical symbol, give a flavor of the Middle Ages. Here and there traces of German Renaissance architecture remain in a few relatively more ornate limestone houses such as that of the miller at Millbach and institutional buildings of the Moravians at Bethlehem. But the usual big, steep-roofed farmhouses dotted with haphazardly placed little windows are more reminiscent of the spired cities of the Meistersingers, while the Dunker Cloisters at Ephrata might have come straight out of a Dürer engraving. Its medieval quaintness is enhanced by the fact that the Brothers were not particularly skillful workmen and could bring with them only crude tools. To this simplicity all the German peasant art that blossomed in the American wilderness owes much of its charm.

The great fire of London in 1666 was the most important single event in the history of architecture in England and America. Phoenix-like, a new, regular and orderly Renaissance city rose from the ashes of a motley collection of medieval dwellings. Coming to Pennsylvania in 1682, and unfamiliar with the styles of New England and the South, the Quakers built a miniature replica of this new London on the banks of the Delaware. Like the "Dutch Colonial" cottages, these early Quaker houses derived their distinguishing characteristic from the fact that the people who built them came from a rainy country. Many houses in England, even those built after the fire of London, had small pent roofs projecting from the wall between the upper and lower stories, frequently complemented by a pent hood over the entrance to

shield the waiting visitor. The pent roof proved a useful addition to the first temporary chinked log houses in Pennsylvania, and survived when more substantial homes were built.

As Philadelphia set the style for the region of which it was the center, the charming and modest Letitia house, for example, serving as a model for Quaker houses in many other places, it is possible to follow the trail of Quaker architecture through the Philadelphia countryside. Writes the eminent historian, Professor Wertenbaker, in *The Founding of American Civilization*: "Now it is a group of old houses in some secluded glen, now a lone farmhouse half hidden in a cluster of trees, now an inn beside the highway."



HISTORIC CLIVEDEN

One of the finest examples of Georgian architecture as it found expression in the Middle Colonies, is Cliveden, the home of the Chews, around whose dignified Doric doorway the battle of Germantown raged fiercely. Its soberly symmetrical façade was built of stone quarried only a hundred yards away.

Believing as they did, that a man's house, like his clothes, should be devoid of ostentation, the Quaker influence on Philadelphia architecture was in the direction of simplicity. Like the people inside them, Quaker houses were sober and demure. But as more and more ships tied up to the wharves at the foot of High Street, now Market Street, many Quaker merchants became prosperous and built themselves stately homes. Gradually Quaker modes were absorbed by the Georgian. The pent roof and gallery became a brick or marble belt, the pent hood a flat, rectangular paneled pediment with a molded cornice, the severe doorway an entrance framed in fluted or molded columns, and the plain watershed dormer became a dormer with pediments, highly ornamented.

The ultimate triumph of the Georgian style over Quaker and other influences resulted from the fact that the people of Philadelphia, which had

become a cosmopolitan city and virtually the capital of the colonies, continued to turn to England for inspiration. The incoming visitor was met with a hail of questions; the latest gazettes were passed from hand to hand. In imitation of the Worshipful Company of Carpenters in London, the Carpenters' Company was formed, which standardized the best of current designs and motives. It also developed a group of pre-eminent architects who in turn gave Philadelphia some of the best examples of Georgian architecture in the country. But close association with England did not prevent the inhabitants of the city which witnessed the signing of the Declaration of Independence from evolving a pleasingly individual style resulting from the honest use of regional materials such as rugged fieldstone—also brickwork laid in Flemish bond—a certain four-squareness in the proportions, and a restrained repetition of certain ornamental details in doorways, windows, and dormers. Architecturally as well as geographically, the houses of the Philadelphia or Middle Colonies Georgian style stand midway between the unpretentious houses of Connecticut and Massachusetts and the ornate manors of Maryland and Virginia.

In the widely disseminated manual published by the Carpenters' Company is to be found a Doric doorway and pedimented dormers which were copied, with variations, at Cliveden (in Germantown), and the Mount Pleasant mansion at Fairmount Park, while the mantel that appears in it obviously inspired the ones in the Powel house in Philadelphia, and other historic mansions. In addition to the master carpenters, who until the middle of the century were the chief architects, the membership of the Carpenters' Company included such few architects as there were, like James Porteus, and cultivated amateurs like Andrew Hamilton, one-time attorney general of Pennsylvania. To Hamilton the country will always be grateful for the State House in Philadelphia, which he not only planned, but also completed out of his own private funds and which became Independence Hall. More than a historical monument, this great building is an exquisite example of American Georgian of the first and second periods. The plain but nobly proportioned main building of mellow red brick, begun in 1733, is topped by a large square tower terminating in an octagonal arched belfry, which was not completed until sixteen years later. Two wings are connected to it by arches, which, however, were not designed by Hamilton.

The cities of the world are full of large and imposing public buildings, but Independence Hall in Philadelphia succeeds in being imposing by the sheer simplicity of design, justness of proportion, and refinement of decoration, that are the highest attributes of the Georgian style.

When John Adams dined at Mount Pleasant mansion in 1775, he called it "the most elegant seat in Pennsylvania." A squarish, dignified house of ivy-covered yellow stucco, framed at the corners by large blocks of red brick, it is a splendid example of the more pretentious Georgian private house. The

hipped roof ends in a balustraded deck, and there are two huge arched chimneys at either end. Soapstone steps lead up to the rich door in the projecting central block, surmounted by a triangular pediment, above which is a Palladian window. With its long avenue; forecourt planted with box; outbuildings; gardens; lilac-bordered lawns; and terraces descending to the river, it recalls the courtly days before the Revolution.

It was built by a Scotch sea captain who, as Adams quaintly puts it, "had an arm twice shot off," and won a fortune privateering. Later it was bought from misappropriated army funds by Benedict Arnold and presented, leased and heavily mortgaged, to Peggy Shippen, his beautiful bride, but was occupied throughout his lifetime by the Spanish envoy, Don Juan de Mirailles.

## FURNITURE

Bend an English yew bow double and insert the ends in a saddle-shaped seat, and you have a Windsor chair in the making. For hundreds of years the turners of Buckingham forest, which once rang to the cries of Robin Hood and his merry men, made chairs, except for the seat, entirely upon the lathe. In the shadow of Windsor Castle an industry arose. Making its appearance in the American colonies in the early years of the eighteenth century as a garden chair, the Windsor, with its graceful bow or comb-shaped back, its gently yielding spindles connected by a curved backrail, its comfortable arms and sturdy outward slanting legs, entered the home by way of the kitchen and soon penetrated into every chamber except the formal drawing-room. Specialists in Windsor chair-making arose all along the Atlantic seaboard, especially in Philadelphia and New York and shipped their products to the South and elsewhere in large quantities. English makers tried to recapture some of the Windsor's new popularity, but the Chippendale influence was too strong.

When Washington ordered chairs from London before the Revolution, he complained that those made at home were not strong enough "for common sitting," but either Windsors improved or patriotism prevailed, for when he retired to Mount Vernon he ordered thirty for the east portico, to accommodate callers. The delegates to the First Continental Congress in Carpenters' Hall and the Second Continental Congress in Independence Hall, sat in Windsors. Thomas Jefferson drafted the Declaration of Independence in a Windsor which, as might have been expected, was of his own design. With the rise to popularity of the more pretentious and more expensive Chippendale, the Windsor gradually went into an eclipse, although it is still to be found in the kitchen and on the porch, and even in many a good, honest American living room.

The demure contours of the Queen Anne style had not proved imposing enough for the great Palladian houses built in England during the Georgian

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period. Consequently, British architects such as William Kent went to French and Italian palaces for their inspiration and brought back a taste for the baroque. The style reached an extreme in the "rococo" or "rocaille" motives with which Meissonier and other French artists tried to express the spirit of the fantastic rockeries and grottoes of the gardens of Versailles as in the days of Louis XV, a spirit supposedly symbolized by the curving lines of a shell. In furniture the mode reached its most consummate expression at the hands of the master English cabinetmaker, Thomas Chippendale,



A COMB-BACKED WINDSOR

Long before American Independence, the American Windsor chair saw the light of day, like the Chippendale chair, in Philadelphia. In pre-Revolutionary days, Washington was in the habit of ordering his Windsors from England, on the ground that local ones were not strong enough "for common sitting." Afterwards he changed his mind, but history does not tell us whether this should be ascribed to stronger patriotism or better carpentry.

who experimented with a revival of Gothic and with his own interpretation of Chinese (another influence coming by way of France), before devoting his talents to carrying out the more severely classical ideas of the architect Robert Adam. These successive influences can be identified in furniture of the Chippendale school by the cabriole leg, the Gothic, the Chinese, and the straight leg. Although practically no "Chippendale" furniture is known to have been made by Chippendale, his name has justly been given to one of the finest styles in English furniture.

His book, *The Gentleman and Cabinet Maker's Director*, which made its appearance in the American colonies fifteen years before the Revolution, had been preceded by an influx of craftsmen bringing with them designs and

sketches. In response to the demand for furniture suited to the great mansions of the wealthy in Philadelphia and New York, there developed a school of craftsmen which produced examples of the art of furniture making worthy to rank with the best of any country in any period. This was the justly famous "Philadelphia Chippendale" school. It is an interesting commentary on the difference between these days and ours that the master craftsman who gave America some of its most beautiful highboys and lowboys, William Savery, worked in a shop with a twelve-foot frontage, and was not above repairing the bottoms of rocking chairs, or turning out ironing boards, rolling pins,



A CHIPPENDALE CHAIR

The cabriole leg, the claw-and-ball foot, and the graceful, curving splat identify this chair as of the school of Chippendale.

and chicken coops when the occasion offered. Like Goddard of Newport, he was a Quaker.

A larger shop was that of Benjamin Randolph, whose graceful, ornate ribbon-backed chairs, to which he devoted himself exclusively, "out-Chippendaled Chippendale."

And at least one furniture maker altered the course of American history. The defense of Fort Stanwix by Marinus Willett, leading New York cabinet-maker, prevented St. Leger from joining Gentleman Johnny Burgoyne and helped make the Battle of Saratoga an American victory, thereby in turn enabling Franklin to enlist the support of France.

Pieces in the "Philadelphia Chippendale" manner were decorated with the delicately pierced shell ornaments of the "rocaille" genre, the acanthus leaf motif, and a peculiar sunflower design that has come to be known as a characteristic of this style and can be seen on the staircases of Philadelphia houses



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of the time. Such pieces usually had cabriole legs, with elaborately carved knees, terminating in claw-and-ball feet.

The seventeenth century had been a "glassless" century in the colonies as far as tableware is concerned, but the eighteenth saw efforts to make fine glass, including those of the Wistars, father and son, at Wistarberg, South Jersey, and of the romantically exuberant "Baron" Stiegel, in Lancaster County, Pennsylvania. These early flint glasses were characterized by lightness, thinness, high structural tension, resonance, brittleness, brilliant surface, pure lines, uniformity of color, and beautiful engraved and enameled designs.

Stiegel came to the Colonies from Germany in 1750, married the daughter



AMERICAN GLASS

No matter how brash Baron Stiegel may have been considered, the fact remains that he made the most beautiful glassware in the Colonies. His creamers, bowls, glasses, and toilet water bottles with quilted, diamond, and reeded patterns, or delicately engraved or painted, graced many a cabinet shelf. In addition to brilliant "white" glass, his blowers produced lustrous shades of deep sapphire, amethyst, amber, and green.

of the owner of an iron furnace, imported workmen, and established a glass works which prospered tremendously. He laid out the whole town of Mannheim for his workmen and built himself a mansion with two towers guarded by cannon, and a band platform on which open-air concerts were given. He traveled in a gorgeous coach drawn by eight white horses with outriders, preceded by couriers, the arrival and departure of which was announced by the firing of cannon. Although trouble was clearly brewing between the Colonies and England, he continued to enlarge his factory, speculate in land, and increase his scale of living, until in 1774 the bubble burst, his glass works were sold by the sheriff, and he went to jail.

The attribution of the invention of the rocking chair to Benjamin Franklin may have been on the strength of a delightful description of a visit to the creator of "Poor Richard" in 1787, although it is a matter of record that nearly half a century earlier Franklin had bought two "nurse chairs" or

rockers. On the occasion of that visit the old gentleman was found ensconced in a rocker, fanning away the flies by means of a string attached to his foot, and surrounded by "many other curiosities and inventions, all his own, but of lesser note."

It would be more accurate to say that if rocking chairs had not already been in existence either Benjamin Franklin or Thomas Jefferson would most certainly have invented them, for they were quick to improve upon whatever stimulated their curiosity. Even the invention of the stove-fireplace for which Franklin takes the credit was inspired by those of the Pennsylvania Germans.



A PENNSYLVANIA GERMAN CHEST

Tulipomania—the craze for tulips—spread from Holland to the Rhineland in the seventeenth century, though some say the tulip motif reached the Palatinate from Persia, where it was one of the symbols of the Zoroastrian religion. At any rate, practically no painted article of furniture in the home of the Pennsylvania German was without its tulip-and-heart pattern. Nowhere was this sentimental symbol more appropriate than on the dower chest which contained the bride's trousseau.

In 1744 he published a pamphlet giving an account of his own widely popular "newly invented" Pennsylvania "Fireplaces," as he calls them, for what is a stove but a fireplace taken out of its recess and put where its heat warms the room instead of escaping up the chimney? In the pamphlet *"wherein their Construction and Manner of Operation is particularly explained; their Advantages above every other Method of warming Rooms demonstrated; and all Objections that have been raised against the Use of them answered and obviated,"* he describes the German stove as "like a box, one side wanting. 'Tis composed of five iron plates scru'd and fixed so that you may put the fuel into it from another room. . . ."

But it was not so much because the Pennsylvania German gave the American householder his stove and the pottery and glass in his cupboard, the frontiersman his "Kentucky" rifle, and the pioneer his covered wagon, that he is of exceptional interest to the student of material backgrounds. It is because the objects with which the Rhineland German who settled in America surrounded himself meant so much more to him than they do to most people. Everyone is familiar with the fairy stories in which, on the stroke of midnight, toys and other familiar objects come to life. To the German of the

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Palatinate, imbued with a deep-rooted mysticism inherited from the Middle Ages, which spontaneously sought expression, it was as if his everyday things were alive. In default of speech they could be made to bear symbolic expression of his faith, aspirations, fears, and pleasures.

The tulip and the heart, which appear on the gaily painted dower chests and the exquisite little bride boxes, on clock dials, stove plates, illuminated manuscripts, pottery, and wrought-iron objects such as weather vanes, foot-scrapers, forks and meat hooks, express religious devotion. The no doubt



A KENTUCKY RIFLE

The "Kentucky" rifle which succeeded the smooth bore was, it is claimed, a Swiss invention, brought to America by immigrants from the Palatinate. From Pennsylvania, where these settlers established themselves, the use of the rifle quickly spread to the Kentucky frontier. On it, and on his keen eye, the backwoodsman depended for a living.

profound significance of the circle enclosing geometric patterns, reminiscent of Gothic rose windows, which he painted on the walls of his barns and the panels of his chests, and carved on the backs of his chairs, is lost in the mists of antiquity, but the crosses and "toad's-foot" symbols on the door latch (and also knives and tableware) are talismans or hex marks to drive off witches. The dove symbolizes a happy married life; the forget-me-not, friendship; the flower of the pomegranate, fertility and prosperity; while the unicorn is the defender of purity.

Roses and fuchsias, parrots and peacocks, horses, rabbits and deer reveal the traditional German love of nature. On their beautiful bowls and dishes they depicted the lighter side of their existence through the portrayal of hunters, brides and grooms, fiddlers and dancing couples, while the plates of the stove, that shrine of family life, were reserved for the stern moral lessons of the Old Testament, pictorially expressed. Finally, their quaintly illuminated birth, baptismal, and marriage certificates, and hymnbooks were the sole survival anywhere in the world of the loving care with which the monks of the Middle Ages used to embellish the Holy Word.

As in the case of other manifestations of craftsmanship, this natural and beautiful folk art was eventually destroyed by the machine. Says Professor Wertenbaker:

"Today our furniture, clothing, implements, utensils, have lost the significance which once they possessed. The chair in which we sit, the

bed in which we sleep, the coat on our back, the plate out of which we eat are soulless things, stamped off by the thousand or the million, in whose creation we have had no part and which are really strangers in our home. In those days before the advent of machine-made goods it was otherwise. The home craftsman or the shop worker was in a very real sense an artist, and his creation the expression of himself, his homeland, and his age. The images which he created may be crude, the perspective false, the proportion awry, but they constitute art, in a sense as real as that of Michelangelo or Rembrandt."

## CLOTHES

In and around New York, that bustling commercial center, merchants and patroons in gay silks and velvets mingled with workmen in plain linsey-



A "FASHION BABY"

Children, do not turn up your noses at this little Pennsylvania dolly. To the Colonies, richly dressed dolls were sent by mantuamakers in London and Paris, to give an idea of the prevailing fashions and materials, and were received in American homes with all the attention due to a distinguished visitor.

woolsey and leather aprons; Dutch burghers in sober woolens rubbed elbows with English gentlemen in cocked hats, knee breeches, and "exceeding magnificent" embroidered waistcoats. In Pennsylvania, costumes ranged from the rich satins and brocades of the well-to-do, the similar but more subdued garb of the Quakers, the honest homespun of the Germans and Welsh, the calfskin vests and buckskin breeches of the Swedes, the quaint cloaks and boots of the Moravians, the long red caps of Scotch-looking snoods of the Men-

nonite men and women, and the cowed habits of the Dunkers and Sabbatar-ians, to the black jackets, trousers, and wide-brimmed hats, the black skirts, shoulder capes, and little black bonnets, of the men and women of the sect of the Old Order Amish.



A GEORGIAN LADY

"Let your gown be a sacque, blue, yellow, or green,  
And frizzle your elbows with ruffles sixteen;"

was part of a Georgian "Beau's Receipt for a Lady's Dress." This lovely gown of yellow damask brocade over a blue quilted satin petticoat was worn by a colonial dame in the days of George I.

Fashions in dress in the flourishing Middle Colonies during the eighteenth century reached, if anything, a higher degree of luxury than in New England, and were characterized by greater variety. At the top of the scale elegance was often carried to the point of affectation. A gentleman of New York or Philadelphia in the early years of the century could pick his wig from among the following types: Tie, Brigadier, Major, Ramillies, Full-bottom, Giddy, Feather-top, Neck-lock, Allonge, Levant, Grecian fly wig, Beau-peruke, Long-tail, Fox-tail, Cut-wig, Scratch, Twist-wig, Royal bird, Rhinoceros, Corded Wolf's-paw, Count Saxe's mode, She-dragon, Jansenist, Wild-boar's-back, Snail-back, Spinach-seed, Gregorian, Minister's bob, Curley roys, Airy

levants, I-perukes, Dalmahoy. In England a man's social class and profession were indicated by his wig, a custom which has survived in the case of judges and barristers. A convict escaping to America would pick up a battered yellow peruke and pass himself off as a schoolmaster. The Ramillies wig shows the connection between history and fashion, having come into favor after the battle of that name in the War of the Spanish Succession. So does the Kervenhuelle, a large hat named after a popular military hero in the same war. Another battle gave its name to the Steinkirk, a lace cravat loosely tied, after the manner of the French princes who hurried into action without stopping to complete their toilets. It was worn by both men and women.

In the course of time, men's clothes grew less elaborate. Wide-cuffed sleeves and jack boots disappeared. Hats and wigs became smaller. Although materials continued to be rich, coat skirts and waistcoat corners were cut away in front, anticipating the simpler modes of modern times.

But the gentlemen continued to pay much attention to fashion, giving rise to a phenomenon practically unknown today: the dandy. "Like Yankee Doodle, who stuck a feather in his cap, he exaggerated current foibles to show that he was 'in the know.'" That this often disgusted soberer citizens, is shown by this description of a dandy quoted from a Philadelphia newspaper of 1772:

The "hair is loaded with powder and pomatum . . . the rest of it chiefly consists of French silk, gold lace, fringe, silk stockings, a hat and feather and sometimes a cockade, and then it is quite irresistible. White hands, a diamond ring, a snuff-box, a scented handkerchief, and a cane. Its employment is to present that snuff-box, to wield that cane, to show its white teeth in a perpetual grin, to say soft things in every sense of the word to the ladies, to follow them everywhere like their shadow, and carry like a spaniel."

In women's clothes the French influence was in the ascendant, as revealed by the Watteau dresses with their flowing panniers, the loose sacques and polonaises, and such cloaks as the roquelaure, the capuchin, and the pelerine. An exception were the attractive, high-crowned straw hats borrowed, by way of England, from the peasant girls of the Italian province of Leghorn.

Women's dainty silk damask and satin brocade shoes and fragile Morocco slippers were ill-suited to the rough, unpaved streets, so for walking, which they apparently avoided whenever possible, they wore pattens, or thick wooden soles mounted on iron rings.

"How many pieces of riband and what feathers and the like did Adam and Eve wear in Paradise or out of it? What embroideries, silks, points, etc. had Abel, Enoch, Noah, and good old Abraham? Did Eve, Susannah, Elizabeth and the Virgin Mary use to curl, powder, patch, paint, wear false locks

of strange colors, rich points, trimmings, laced gowns, embroidered petticoats?" asked William Penn back in the seventeenth century. So the strict



FOOTWEAR

Gentlewomen's shoes, in the eighteenth century, were not made for walking. They were invariably thin-soled and of light material: silk, callimanco, velvet, damask, thin leather, or linen. For walking in the mud, separate wooden soles on iron rings were fastened to the shoes by leather straps.

These were known as "pattens."

Quakers discarded all unnecessary ornament and avoided fashionable bright colors.



A MEMBER OF THE AMISH SECT

Amish men all dressed alike, in ministerial garb plainer than that of the plainest Quaker. Hooks and eyes were used instead of buttons, which were relegated to the backs of coats or coat sleeves "for the devil to hang something on." Uniformity extended to the trim, and even, some maintain, to the sandy, reddish color of the beard.

It was not their intention, however, to adopt a distinctive costume. When asked by Charles the Second to define the difference between their religions,

Penn replied: "The difference is the same as between thy hat and mine; mine has no ornament." Which did not prevent Penn himself from wearing a wig and occasionally sporting a sky-blue silk sash.

In the early years, Quaker ladies of the Pennsylvania colony were careful not to adopt a fashion until it had gone out of style, as in the case of the characteristic white apron. Leather straps replaced the elaborate shoe buckles of the day for both sexes. Men wore straight collars. The broad-brimmed Charles the Second beaver hat worn by Quaker men was turned up to a point in front and curled up behind. The women drew it down to the chin and tied it with a huge bow. With the use of softer materials, it became the familiar Quaker bonnet, but hoods were also worn, as were "wagon" bonnets resembling the tops of Jersey wagons.

In the early years of the following century, Quaker ladies must have looked lovely in their white satin flowered petticoats, pearl satin gowns, and peach-colored cloaks. But gradually gray, drab and buff became the rule among the stricter members of the Society of Friends.

## FOOD

In Franklin's *Pennsylvania Gazette* in the early part of the century, there appeared an advertisement to the effect that the proprietor of the State House Inn in Philadelphia had "several dogs and wheels" for sale, "much preferable to any jacks for roasting any joints of meat." This referred to "turnspit dogs" which were trained to keep the roast turning by running in a revolving cylinder or barrel. There were also "clock-jacks" which turned it by clockwork, and "smoke-jacks" turned by the current of hot air in the chimney.

In large houses as time went on these jacks were eventually replaced by "Dutch ovens"—little iron boxes on legs with one open side turned toward the fire for cooking.

There was plenty to eat in the Middle Colonies. In New York in 1763 two shillings and sixpence would buy a hen turkey; sixpence a teal duck; "quail, one and one-half penny; a wild goose, two shillings; a snipe, one penny; sea bass, two pence a pound; butter, nine pence per pound; lobsters, six pence per pound; clams, nine pence a hundred; oysters, two shillings a bushel."

Many Pennsylvania German recipes were, and still are, popular in and around Philadelphia. Scrapple was made by boiling a cleaned hog's head until the meat fell from the bones; chopping the meat fine and returning it to the pot; adding corn meal until the mixture attained the consistency of mush, boiling it for another hour, then pressing it into a rectangular dish and allowing it to cool. It was served sliced and fried. To make Shoo-Fly cake, a cup and a half of flour, a cup of brown sugar, and a quarter of a cup of butter were mixed until they formed crumbs, which were placed on pastry filled







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### FRANKLIN'S FAMOUS EXPERIMENT

Good journalist that he was, Franklin saved the news of his success in drawing "electrical fire" out of the clouds, for four months. This was so that the first account could appear in the October 19, 1752 issue of his *Gazette*, which, by a coincidence, announced a new edition of *Poor Richard's Almanac*, which, by another coincidence, contained an article, of which he was the author, on "How to Secure Houses, etc., from Lightning."

with a mixture of half a cup of molasses and a cup of hot water and baked.

Not all Quakers lived simply. A guest at one Quaker home remarked that:

"This plain Friend and his plain though pretty wife, with her Thees and Thouses had provided us with the most costly entertainment, ducks, hams, chicken, beef, pig, tarts, cream, custards, jellies, fools, trifles, floating islands, beer, porter, punch, wine, and a long etc." In luxurious mansions like Cliveden, the fare was sumptuous. When John Adams dined there he was regaled with: "flummery, jellies, sweetmeats of twenty sorts, trifles, whipped sillabubs, floating islands, fools, etc., and then a dessert of fruits, raisins, almonds, pears, peaches," with "wines most excellent and admirable."

### AGRICULTURE

More fertile and easier to cultivate than boulder-strewn New England, yet less adapted to the production of a single rich crop like tobacco, cotton, or rice than the South, the Middle Colonies were destined to become for some time the granary of the nation. The rugged Dutch *boer* (farmer) on his *bouwerie* saw no reason for not laying out his fields in wheat and rye as his forefathers had done in Holland, while the *bauer* from the Palatinate rejoiced to find in the rolling valleys of Lancaster County the same rich soil and benign climate as he had left behind, and, as a result of his characteristic industry, they were soon teeming with grain. It was not a coincidence that these wheat and flour-producing colonies, the "bread colonies" as they came to be called, should be in the vanguard of the movement for independence. England did not need their wheat, and the economic and cultural ties binding them to the mother country were less strong than those that bound the planter on the banks of the James who sold his tobacco in England.

The turn of the century saw the evolution of the farm proper as distinguished from the agricultural village, among the settlers migrating from New England to New York and New Jersey. When founding a town, settlers drew lots for home sites, pastures, and upland fields. The latter were often far away, and inconvenient to work. The problem was solved with the coming of the second generation. The son usually received the farthest fields, and found it more practical to build himself a home there. The village itself gradually evolved into a community of artisans and merchants.

The land settled by the Rhineland Germans in Lancaster County, Pennsylvania, is among the richest in America. Although their farming implements, like their art, had come down unchanged from the Middle Ages; although they were restricted to the use of the antiquated sickle, scythe and flail, the clumsy wooden plow and wooden-toothed harrow, as time went on they were able to heap up more wealth than they would ever have dared to hope, and build themselves comfortable houses and huge barns overflowing with hay and grain.

## TRANSPORTATION

In early days Philadelphia was the starting point for those that ventured into the wilderness. Thence prospective settlers could make their way south down the Cumberland Valley, over the Blue Ridge Mountains into the forests of Kentucky, or northwest to the tiny outpost of Pittsburgh. As they opened up more and more territory to the West, they demanded the necessities of life, and what had been a thin trickle of supplies along the pack trails that radiated outward from Philadelphia, Lancaster, and Baltimore developed into a steady stream.

Let us put on magic caps that enable us to travel backwards in time and install ourselves at a bend in the trail on one of these "tote-roads," "pack-roads," or "horse-ways," as they were called, somewhere west of Reading, in the early years of the century. From far off can be heard the crack of a whip and the cheering encouragements or curses as the case may be of the driver. Presently a man comes into view leading the first of a file of fifteen horses, each one tied to the packsaddle of the one in front. Behind the rear horse, keeping a vigilant eye on the packs, and always on the lookout for any sign of laziness in the horses, walks the driver himself. Each horse carries a two-hundred-pound load, but part of this is food for horse and man, which will be left at points along the trail to be picked up on the return trip.

This pack train is typical of hundreds of others. Often several families combined and formed a caravan, hiring a master driver and helpers. Eventually freight enterprises grew up in which men controlled thousands of horses, mules, packers, and drivers. In their own interest these men opposed the building of roads.

As the train vanishes down the trail, let us rub our eyes, allow a score or more years to pass, and look again.

Time has got the better of the packer; the trail is now a dirt road. Cabins have sprung up, trees have been thinned out, and in the distance can be perceived what looks like an enormous snake, winding down the road, with a pillar of dust behind it. As it comes nearer one can see that it is made up of a file of thirty or forty wagons. First, three pairs of powerful dapple-gray horses of the famous Conestoga "breed," shaking their headstalls, decorated with ribbons, rosettes, and ivory rings, and the gay scarlet fringe on the heavy bearskin housings over the collar. The heavy chains serving as traces jingle, and the bells hanging from brass arches ring merrily, as the driver, necessarily a strong, powerful man, walking beside the left rear horse, cracks his long whip and takes from his mouth the coarse black cigar that is to go down in American history as the "stogie"—from Conestoga—in order to shout at the horses. His heavy boots, and all others like them, will for a long time be known as "stogies" too.

Now comes the wagon, the bright blue of the underbody and the bright



A CONESTOGA WAGON

From before Braddock's defeat till after the Gold Rush, the Conestoga wagon has figured in American history. During the French and Indian War Benjamin Franklin was once called upon to furnish a hundred and fifty of them to General Braddock, and, like the efficient man he was, managed to obtain them on short notice. The Conestoga is the ancestor of the lighter, smaller, prairie schooner or covered wagon which carried settlers west over the Oregon and Santa Fe trails.

red of its upper woodwork and running gears, contrasting with the white of its canvas cover. It is shaped for all the world like a Spanish caravel, with a concave bed higher at each end than in the middle, to keep freight from sliding about when going up or down hill, and in truth this "ship of inland commerce," with the wheels removed, can be floated across rivers. The rear wheels are six feet high, and the wheel tires nearly a foot wide. On one side of the wagon is a small tool chest and a lazyboard or long seat for the driver when he wants to rest. The covering of strong white homespun hemp arched over a baker's dozen of wooden bows protects five or six tons of freight. In back hangs a feed trough into which are often plunged the noses of the leading horses of the next team, and below the wagon a water pail and a tar bucket or lodel.

This is the famous Conestoga wagon, brought to America by the industrious Pennsylvania Germans who settled in a valley once inhabited by the Conestoga Indians. They used it to carry their products to market in Philadelphia, and it became the standard vehicle for freight transportation of the day. The teamster, or "cracker" (who cracked the whip), took great pride in its gay coloring, which was the same for each wagon; the harness decorations, and the horses themselves, which were well chosen, carefully matched, and superbly trained.

Teamsters carried in the wagon box a peculiar flat biscuit bread which didn't crumble or stale; they also carried bacon, and coarse thick coffee. The drivers of these freight wagons were known as "regulars," while farmers who had lighter wagons for occasional trips during the off season were known as "militia."

The driver walked beside or rode the left-hand rear horse so that he could manipulate the whip with his right hand. With his team on the right-hand side of the road he himself was near the center and so could more easily judge the distance when passing another team, and this, it is said, gave rise to the American custom of keeping to the right instead of to the left, as in England.

Water travel was still easier in those days than travel by land. For carrying freight up and down the shallow, rocky Delaware above the falls, a special type of boat was designed, called the Durham. It was narrow and light of draft, but sixty feet long. Open in the center, with high decks at either end, it resembled a huge canoe. It was manned by three men, who poled it upstream and allowed it to drift down. Durham boats, it is said, carried Washington's men across the Delaware on that Christmas night in 1776 when he surprised the Hessians at Trenton.

## INDUSTRY

Although in the seventeenth century the Dutch made the mistake of not paying much attention to their tiny settlement on the tip of Manhattan

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Island, a mistake which may have cost them an empire, they could not fail to endow it with the advantages accruing from the practical Dutch character, which, allied to its own physical advantages, such as one of the greatest natural harbors in the world, opened up undreamed-of possibilities of growth and development. In the early part of the seventeenth century, old Amsterdam was the financial and mercantile center of the world. Nearly three hundred years later, long after the Dutch had renounced all claim to colonial possession in America, this place of honor devolved upon its own offspring, the erstwhile New Amsterdam, which has never lost in its atmosphere, character, and outlook the imprint of the mercantile spirit which it received at the hands of the Dutch traders of old.

The port owed its unparalleled rise chiefly to the fur trade. Mountain ranges barred the English from the northern forests abounding in beaver, fox, raccoon, musquash, skunk, mink, fisher, marten and ermine, while the Dutch had easy access to the region around the Great Lakes by way of the Hudson and Mohawk valleys. From Albany venturesome traders, for the most part young men, would plunge into the wilderness, bringing the Iroquois muskets with which to fight the hated French, in return for pelts which were piled upon sloops and sailed down the Hudson to its mouth, where waited the fat-bellied vessels bound for Holland.

Meanwhile the same forests were yielding a rich supply of lumber and the whine of the sawmill was a familiar sound in the Mohawk Valley. Masts, spars, ship timbers, and "naval stores" such as turpentine, rosin, tar and pitch; pipe staves, clapboard, and wainscoting, were shipped to England and the West Indies. To these islands also went most of the surplus wheat and flour. Other exports were hemp and flax, salt and potash, and last but not least, tobacco, in return for which there came a stream of manufactured goods from England, and from the West Indies, rum, mahogany, and Negroes.

If a soothsayer had suddenly appeared and told Benjamin Franklin or Cornelius de Pauw, the visiting Dutch philosopher, that North America would one day produce half the world's supply of iron and steel, copper, zinc, and lead he would hardly have been believed. In the eighteenth century, even though it was the prospect of finding mineral riches that had attracted the first settlers, no one dreamed that the country's greatest riches were buried beneath the ground. De Pauw observed that: "in all the extent of America there are found but few mines of iron, and these so inferior in quality to those of the older continent that it cannot even be used for the making of metals," while Franklin remarked: "Gold and silver are not the produce of North America, which has no mines."

But Pennsylvania had deposits of iron ore, plenty of trees for fuel, and water for power. William Penn had urged the settlers to erect furnaces and

forges, and those eventually built—after his death—were used for the production of tools, nails, wagon and sleigh tires, mill spindles, anvils, pots, kettles, forged plates, weights, bells, chains, guns, and cannon, not forgetting the little iron Indians the Pennsylvania Germans used to put on top of their houses to show that they had duly remunerated the Indians for the land they were occupying. In the Alleghanies iron bars were hammered into U-shape so they could be fitted onto the backs of horses, for transport by pack train.



AN IRON INDIAN

Colonial ironworkers did not always follow the designs of the mother country, but gave free rein to their inspiration. One result was the weather vane in the form of an Indian, a favorite in the Pennsylvania German country. Sometimes they depict the Indian in savage garb, and sometimes in sophisticated white man's clothes, hat and all, but never without his bow and arrow. Many are in use today.

The first furnaces were built of stone in the form of a pyramid about twenty-five feet high and twenty-five feet square at the base; the blaze was fanned by leather bellows operated by water power.

While iron casting had taken place in Massachusetts as far back as 1644, it was 1720 before it got under way in Pennsylvania, where, nevertheless, it had reached considerable proportions by the middle of the century. However, Westminster regarded these activities with a slightly jaundiced eye. Although the casting of pig and bar iron was encouraged, Parliament restricted the making of secondary iron products, such as slit iron, steel, and iron plate. Despite hindrances, the American iron industry forged ahead, and when the Revolution broke out, there were furnaces available, like those of Warwick and Reading, to cast cannon in support of the cause of American independence.



## LIFE IN THE COMMUNITY

A study of Franklin's incredibly varied activities during the first half of his life, as described in his *Autobiography*, gives a good picture of the progress of civilization in pre-Revolutionary America and more particularly, of course, in Philadelphia. A simple list of the departments of human activity into which the sage poked his nose and to the progress of which he made many notable contributions, would fill pages.

He did much in a practical way for the city itself. He interested himself in reforming the city watch which until then consisted of one constable to each ward, accompanied by a crew of ragamuffins, who spent the night going from tavern to tavern at the taxpayer's expense. He was actively interested in organizing the first fire company. He succeeded in having a number of the streets of the city paved and lighted, with lamps designed after his own ideas.

But they were still dusty and dirty. One morning, when he opened his door, he found a poor old woman sweeping the pavement in front of his house with a birch broom. When he asked who had employed her to perform the task, she replied: "Nobody, but I am very poor and in distress, and I sweeps before gentlefolkses doors, and hopes they will give me something." This suggested to the resourceful Franklin a way of organizing street cleaning throughout the city.

Franklin began his career as assistant to his brother, founder of the *New England Courant*, which has been called "the first sensational newspaper in America." When he started out as a printer in Philadelphia there were few printers and stationers' shops, and "not one good booksellers' shop in any of the colonies to the southward of Boston. . . . Those who loved reading were obliged to send for their books from England." Within a score of years he had his own printing and booksellers' shops, not only in Philadelphia, but in New York and Charleston, and even as far away as Kingston, Jamaica. He contrived the first copperplate press in the country.

In 1729 Franklin bought the *Pennsylvania Gazette* and made it into one of the most widely read newspapers in America, in an age when circulations were small. Three years later he wrote and published the first *Poor Richard's Almanac*, which he considered "a proper vehicle for conveying instruction among common people, who bought scarcely any books." The nucleus of a reference library had been formed by the members of the Junto, a club founded by him to facilitate the looking up of points under dispute, which later developed into "the mother of all North American subscription libraries."

At the time he became postmaster of Philadelphia, in 1737, the postal service was still extremely primitive. There was a weekly service between Philadelphia and New York, the journey taking three days. By means of efficient organization, Franklin cut the time to a day and a half and arranged for the sending of mail three times a week.

He reprinted Richardson's *Pamela* in his printing shop in 1744—the first novel printed in America. He proposed the founding of the Philosophical Society, and the Charity School which grew into the University of Pennsylvania.

Meanwhile, when not occupied with the service of the state, his curious mind found time to investigate the nature of lightning (and discover a method of protecting buildings therefrom); the aurora borealis and the Gulf Stream; northeast storms in America; earthquakes; the origin and cure of the common cold; the benefits of inoculation (having lost a son who had not been inoculated against smallpox); the effect of the depth of water on the hulls of ships. As if this were not enough, to Franklin has been ascribed the invention of a milestone-laying machine, a roller press for copying letters, and a glass apparatus for exhibiting the circulation in the arteries and veins of the human body.



## CHAPTER VIII

### THE SOUTH: A Crop of Leaders

#### INTRODUCTORY

THERE are three periods in the history of the South, corresponding roughly to the seventeenth and eighteenth centuries, and the nineteenth century up to the Civil War. In the first period, as we have seen, colonizers, adventurers, gentlemen, and cavaliers wrested a fairly rough living from the land at the water's edge. The sea, by which they had come, was the only road they knew, and they settled along its border or as far up the broad rivers as their seagoing vessels could take them.

By the eighteenth century, thanks mainly to tobacco, their descendants had become relatively prosperous. In the Tidewater regions of Virginia, the Carolina rice districts, and the bayou regions of Louisiana a gracious culture developed, which in the case of a few great landed proprietors rivaled that of manor life in England. The Tidewater planters were cultured, industrious men of stable character, and trained administrators. Virginia alone gave our country four out of five of its first Presidents: Washington, Jefferson, Monroe, Madison; and statesmen, orators, and lawyers like Henry, Marshall, Randolph and Pendleton.

And the names of the great houses—Carter's Grove; Rosewell, of the Page family; Berkeley, of the Harrison family; Nomini Hall; Stratford, the home of the Lees; Westover, the home of the Byrds; Sabine Hall; the Brandons; and Mount Vernon, are enough to evoke an existence which at its best was replete with grace, good breeding, chivalrous sport, and joyous entertainment.

Moreover, it can be argued with some justice that the eighteenth and nineteenth-century Southerners were about the only Americans who practiced the art of living for its own sake. They identified themselves with everyday life and got their happiness in the present as they went along.

#### HOUSES

As has been said, tobacco growing requires plenty of land, and the planter's house was necessarily a long way from that of his neighbor. In the eighteenth century it really grew into a little village in itself, for as the Tidewater mansion became more elaborate, the physical separation of many domestic

functions became even more marked than before. A New England housewife, of course, would have thrown up her hands in horror at the idea of cooking carried on elsewhere than in the main house—one of those nice Christmas puddings would have turned to stone while it was being brought across the yard, and the maid would have revolted against being obliged to take so many steps. In the South the pudding stayed warm, and there was no lack of persons ready to carry the dish. So the Southern kitchen became a little separate house.

Then, too, there was not much difference in birth and education between a New England farmer and his hired help. In contrast, on the large estates the planter's help might consist of some poor wretches picked up in English seaport towns, and a good many Negroes. So away with the servants' quarters as well.

Though some of the houses, to be sure, were extremely beautiful, much of the charm of the plantation lay in the ensemble; the Great House, with its lawns, big trees, and gardens full of box and yew, dominating its stables and barns, cottages and log cabins, chicken coops and pigsties, yard, the serried rows of tobacco plants, and beyond them the woods and pastures.

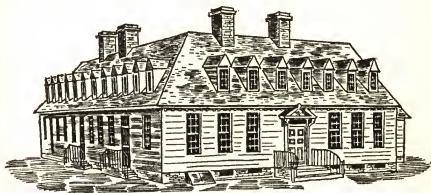
The manor might be on a little hill, or on rising ground, with a view of the broad, peaceful river and of the landing where boats put out with their cargoes of tobacco leaf, and from which, in some cases, the planter's own ships set sail for distant lands. Near by, some moored pinnaces would be lazily slapping the water, and there might be an upturned canoe at the water's edge. Not far away was the garden with its thyme, sweet marjoram, rosemary and phlox, and many flowers such as irises, tulips, crocuses and anemones, sent from England. There were summer houses—vine-clad arbors and grottoes in which the ladies of the house could hide their complexions from the rays of the sun. There was a paling around the garden to protect the flowers and vegetables from the prying snouts of hogs and the hoofs of cows and steers, which were allowed to roam at will. Back of the house was the yard, which consisted of open mown ground shaded by giant oaks and tall cypresses. Near the manor would be the kitchen, a large dairy, and the laundry. A spacious stable for the purebred horses which were the planter's pride and joy; pens and barns for the cattle; granaries for corn and storehouses for tobacco; a smokehouse with brick ovens for curing hams and bacon, a blacksmith shop, carpenter shop, houses for spinning and weaving flax and hemp, for tanning leather for shoes, and a malt house, would complete the ensemble. The white indentured servants would have cottages of their own.

The little cluster of cabins for the slaves made a tiny village of its own. These rude houses, made of logs or undressed planks, were generally shabby and in a state of disrepair.

The orchard contained apple, pear, and cherry trees, which would give

cider and perry, or pear juice; and fig and peach trees, cultivated for the first time in North America. Sometimes there was a vineyard, too. Then there were mulberry trees, and some planters, especially in the seventeenth century, would have chambers prepared for silk culture. Beyond the orchards stretched the vast fields of tobacco, interspersed with woods and copses where the trees grew high over a tangle of undergrowth.

So dependent was the Southern planter on England, that sometimes he even imported a master-builder from "home" to build his mansion. In the Tidewater region he did not lack money to indulge his taste, and he had none of the Puritan's feeling that luxury must not be indulged in. So the houses



RALEIGH TAVERN

At Raleigh Tavern, in Williamsburg, one of Virginia's most historic buildings, George Washington often dined, while Thomas Jefferson danced as "merry and agreeable as possible" with his Belinda. In the Apollo Room, a boycott on tea and other imports was decided upon. Students of William and Mary College are said to have founded the Phi Beta Kappa Society here in 1776.

built along the reaches of the great Southern rivers in the eighteenth century were as elegant and beautiful as their English counterparts.

Where your seventeenth-century planter used wood, the more opulent eighteenth-century proprietor used brick and stone. The Georgian style here as in the North tended to be robust and heavy from 1720 to nearly the middle of the century, when the classic influence asserted itself, with more delicate and more elaborate carving. At about the same time the portico or porch began to assume an importance which was to make it the outstanding characteristic of the Southern home for the next hundred years.

While the houses of the previous period had been built without any regular plan, those in the Georgian style were symmetrical in form. The center section was two or three stories high, with wings a story lower on either side. Roofs, not so steep as they had been, were adorned where they met the walls

of the house, with cornices decorated with classical motifs. This trend toward flatter roofs continued until they could hardly be seen from the street.

The old casement windows, containing numerous very small panes of leaded glass and opening at the side by means of hinges, were replaced by sash windows in which wooden frames, divided by wooden muntins and holding fewer but larger panes of glass, were opened much as we open them today. They were set in the walls at regular intervals and were frequently surmounted by pediments or cornices. High, narrow dormer windows were set in the sloping roofs.

The interior of a Southern Georgian home was characterized by a profusion of richly carved woodwork. Walls were paneled and wainscoted with the choicest woods. Often the wall was wainscoted up to a certain height, and plastered above that.

It should not be thought that in colonial interiors a chaste white predominated. Favorite colors in those days were a delicate blue green; apple green; blue slate gray, and sometimes pink. Painting on panels over mantels was common. Chaste white woodwork came in during the classic revival, as a contrast to vivid, figured wallpaper.

Moldings and cornices were ornamented with classical motifs. The designs used in the decoration of interiors became more and more ornate, and just before the Revolution designs from France, England and China were being combined.

Decoration centered in the fireplace. Carved mantelpieces were topped with paneled overmantels often ornamented with pilasters and pediments. Massive mantelpieces were sometimes imported.

The stairway leading from the great hall, which so often served as a background for the elegantly dressed women and men of the period, was an important feature of the more pretentious Southern mansion. Often made of mahogany, it was usually broad and straight and set at one side of the entrance hall, and well toward the back, to provide more space. At the top of the staircase there might be a large window so that the hall should have plenty of light. Much of the finest woodwork was applied to the banisters. On the great stairway at Carter's Grove can be seen the scars said to have been made by the saber of Butcher Tarleton, a British general, who once rode up the stairs on his charger, hacking at the balustrade in a frenzy of destruction. In a portrait by Raeburn he is labeled as "Balistre Tarleton."

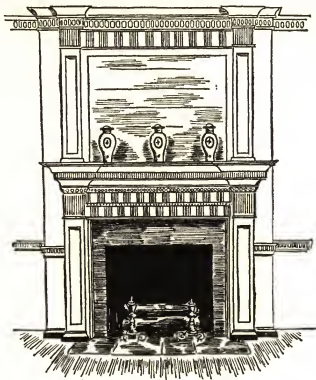
One of the loveliest homes in this country, if not in the world, is Westover, ancestral seat of the Byrd family. The main house, its two stories surmounted by a steep hipped roof with dormers, dominated in turn by four towering chimneys, is given length by two wings on either side, connected to it by colonnades, sometimes called hyphens. The house faces the placid James across a poplar-studded lawn, but the visitor is more likely to approach it from the garden side through high, ornate wrought-iron entrance gates. A



#### WESTOVER ON THE JAMES

Built in 1730 by the second William Byrd, Westover represents in its courtly grace the fine flower of early Georgian architecture. Neither porch nor columns destroy the simplicity of line; no balustrade encumbers the steep roof. As in the best work of this period, its beauty is derived essentially from justness of proportion.

wealth of Georgian decoration is concentrated on the white marble doorway, reached by broad gray stone steps narrowing at the top. Broad fluted pilasters and finely carved Corinthian capitals support a massive cornice, capped by a



A FINE OLD CARVED MANTEL

In the early days fireplace openings bare of mantelshelf or cornice were common, and even in such imposing houses as Carter's Grove, Mount Pleasant, and the home of Jeremiah Lee, mantelpieces were added after the Revolution. But the eighteenth century saw the evolution of beautiful mitred moldings framing the fireplace, with frieze and cornice providing a shelf. Within the limits of classic restraint, they gave the woodcarver scope to express graciousness and hospitality. Before this lovely old fireplace in her little cottage in Alexandria, Virginia, sat Mary, the mother of Washington, as she mused on the accomplishments of "her boy."

pineapple, traditional emblem of hospitality, within a broken pediment. Mellow red brick sets off the delicate stone work.

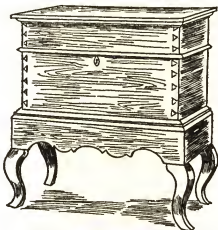
Once inside the house, the visitor finds himself in a hall eighteen feet wide, with square rooms on either side. The walls are paneled throughout, and where they meet the decorated ceiling, there are wide ornamental cornices. On the left side of the hall is the beautiful mahogany stairway with carved, twisted balusters of exquisite workmanship.



In the drawing room is a magnificent fireplace, whose mantel was imported from Italy at great cost. The pediment and borders are of superbly wrought white marble, and the background is of black veined marble. The room is paneled entirely in mahogany with a beaded cornice that extends well onto the ceiling. Pilasters, supporting pediments, stand on either side of the doorways.

## FURNITURE

What an event it was when the Tidewater planter's ship returned from England and made fast to his wharf! For days thereafter the servants and



A CELLARETTE

Most characteristically Southern of all pieces of furniture is the cellarette in which the planter kept his precious claret, port, and Madeira. It was equipped with a drawer, a slide for mixing, and space for eight, ten, or twelve bottles. This early Queen Anne model is distinguished by a graceful simplicity.

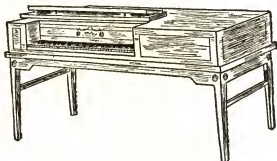
slaves were kept busy unpacking chests, four-posters, graceful Sheraton and Chippendale chairs, mahogany tables, japanned highboys, gilt looking glasses, delftware, Nankin tea sets, brass sconces and brass chandeliers, and Venetian blinds. Until the Revolution, and even after, much came from England; many a familiar object announced in clear tones its owner's English heritage.

No doubt the tradition of lavishness in the South was helped along by London merchants, who encouraged the planter to keep open accounts and to be in a chronic state of debt. It was common knowledge that a higher price was charged for goods sent to the South than for those shipped to New York.

The Chippendale style, with its carving and decoration, suited the luxurious tastes of the Southerners, and its vogue became firmly established.

In 1755, when Chippendale furniture was extremely fashionable, George Washington ordered from London: "a mahogany bedstead with carved and fluted pillars and yellow silk and worsted damask hangings; window curtains to match; six mahogany chairs with gothic arch backs and seats of yellow silk and worsted damask, an elbow chair, a fine mahogany serpentine dressing table, with mirrors and brass trimmings, a pair of fine carved and gilt sconces."

But slavish dependence on England did not last forever. Some Queen Anne furniture had been made in Virginia in the early part of the century.



AN EIGHTEENTH-CENTURY PIANO

The first pianos to grace American drawing-rooms were much like this one, which stands in the Petersburg Room of the American Wing of the Metropolitan Museum in New York. The works were made by Charles Albrecht, of Philadelphia; the case, by an unknown craftsman, is decorated with bands of satinwood inlay, and festoons of flowers painted in color, for American cabinetmakers delighted in following the fashions set by the Adam brothers.

And as American craftsmen and cabinetmakers increased in skill, many fine examples of New England and Philadelphia furniture made their way into Southern homes. And a curious trade grew up in furniture of the simpler sort brought from the North by coastal vessels. Purely as a speculation, ship masters bought lots directly from the cabinetmakers. A large part of this trade was made up of the fancy chair fathered by Sheraton, which had been taken up avidly by American chair makers. Skilled artisans in the New England shipyards were also encouraged to try their hand at furniture making in the slack seasons.

If he couldn't afford to order furniture from London, or to buy from Yankee skippers, your struggling planter had one last resource; a slave who had acquired skill as a cooper or joiner could put together a crude copy of some imported pieces.

The average room in a Southern home was not furnished very differently from the average room in a Pennsylvania or Massachusetts home of equiva-

lent pretentiousness. Mosquito netting was more often in evidence than the warming pan. An article probably not often to be seen in the Yankee home was the couch on which one could take one's ease during the day—sometimes handsomely covered with embroidered material or Russia leather, or less handsomely in plain calico.

## CLOTHES

A large share of the rich silks, damasks, embroidered gauzes, and fine cottons brought by Yankee merchantmen from the Orient and from Europe went to the planters of the Piedmont and the Tidewater in Virginia.



HALF MASK

Such a mask as this would grace milady's visage at a ball. But black velvet masks were also worn in winter to protect it from the wind, and masks of green silk in summer, to ward off the rays of the sun.

In fashions as in furniture, the influence of England and the continent was paramount, and the planter families eagerly awaited the arrival of letters, fashion plates, and dolls dressed in the latest styles, not to mention fabrics, costumes and furnishings of all kinds. Costumes were if anything more luxurious than in the Middle Colonies and New England. Philip Fithian, a serious-minded young man from New Jersey employed as tutor at Nomini Hall, escorted Mrs. Carter to a ball on a neighboring plantation, and noted in his diary that "the Ladies were dressed Gay, and splendid, & when dancing, their Skirts and Brocades rustled and trailed behind them."

Otherwise, there was little difference in costumes between North and South. Due to the warm Southern sun there was less need for heavy padded coats, and for wigs, which began to go out of fashion about the middle of the century.

The same sun made advisable the use of masks to protect the delicate complexions of the ladies and maidens, not the least of whose aims in life seems to have been to charm the opposite sex. Even as a little girl, Dolly Madison wore full length gloves and a linen sun mask, and had a bonnet sewn on her head every morning.

That outstanding Virginian, the Father of his country, ordered from Eng-

land one day in 1759, a light summer suit of "Duroy by the measure, four pieces best India nankeen, two best beaver hats at 20 s, one piece of black satin ribbon, 1 sword belt, red morocco or buff, no buckles or rings." For his six-year-old stepson, Custis, he ordered the following: "one piece Irish Hol-



A PLANTER AND HIS LADY

About the middle of the eighteenth century, gentlemen wore large, square-cut coats reaching to the knee, with voluminous pockets, large turned-back cuffs, and lace ruffles at neck and wrists. A long, heavy, tight-fitting vest was worn underneath. Still more elegant was the planter's lady. She wore a graceful *robe à la française*, or sacque-backed dress, gathered at the back of the neck in a kind of Watteau pleat, cascading loosely down to sweep the ground. The sleeves that reached to the elbows, were trimmed with elaborate lace ruffles. The stomacher was often ornamented with bows.

land at 4 s, two yards fine cambric at 10 s, six pocket handkerchiefs small and fine, six pairs gloves, two latest hats, two pieces Indian nankeen, six pairs fine thread stockings, four pairs coarser thread stockings, six pairs worsted stockings, four pairs pumps, one summer suit of clothes to be made of something light and fine, one piece of black hair ribbon, one pair handsome silver buckles and knee buckles, one light duffel cloak with silver frogs." And for little Nellie Custis, aged four, "eight yards fine printed linen at 3 s 6 d, one piece Irish Holland at 4 s, two ells of fine Holland at 10 s, eight

pairs kid mits, four pairs gloves, two pairs silk shoes, four pairs calamanco shoes, four pairs leather pumps, six pairs fine thread stockings, four pairs worsted stockings, two fans, two masks, two bonnets, one stiffened coat of fashion silk made to pack thread stays,  $\frac{1}{2}$  piece of flowered dimity, two yards fine cambric at 10 s, two caps, two pairs ruffles, two tucker bibs and aprons, if fashionable." He did not forget to add "10 shillings worth of toys, six little books for children beginning to read, 1 fashionably dressed baby, 10 s 1 d, and other toys 10 s."

And through Fithian's observant eyes we are permitted to look upon another member of the Washington family, little Jenny, the great man's niece, who took part in Mr. Christian's weekly dancing class at Nomini Hall one June day in 1774.

"Miss Washington is about seventeen, . . . She moves with propriety when she dances a *Minuet* & without any *Flirts* or vulgar *Capers*, when she dances a *Reel* or *Country-Dance* . . . Her Dress is rich & well chosen, but not tawdry, nor yet too plain; She appears toDay in a Chintz cotton Gown with an elegant blue Stamp, a Sky-Blue silk Quilt, spotted Apron; Her Hair is a light Brown, it was crap'd up, with two Rolls at each Side, and on the top a small cap of beautiful Gauze and rich Lace, with an artificial flower interwoven . . . Miss Hale is about fourteen . . . she has black eyes, and black hair, a good sett of Eye Brows, which are esteemed in Virginia essential to beauty; . . . She is drest in a white Holland Gown, cotton Diaper Quilt very fine, a Lawn apron, has her Hair crap'd up, & on it a small Tuft of Ribbon for a Cap."

Let us close this section on costumes with a curious entry in this useful diary: "Almost every Lady wears a red Cloak; and when they ride out they tie a red handkerchief over their Head and face, so that when I first came into Virginia, I was distressed whenever I saw a Lady, for I thought she had the Tooth-Ach!"

## FOOD

The Old Dominion and its neighboring regions constituted a land of plenty—the forest teemed with bear, deer, wild turkey, quail, pheasant, and partridge; the marshes and bays were cloudy with canvasbacks, mallards, and redheads. Here also were to be found the toothsome terrapin, the succulent oyster, and a profusion of sole, bass and shad. Flocks and herds had multiplied and the hogs that rooted in the woods furnished the planter with his favorite fare. Lean and slab-sided were these razorbacks, but the planter quickly learned that they yielded the tastiest hams. Another advantage was that, being lean and agile, they could more easily escape from greedy retainers, upon whom, it might be added, the chickens squawking in the roost exercised an even greater fascination. The cornfield gave green ears for pudding, hom-

iny, pone, hoeecake, spoon bread and muffins, and cowpeas after the corn was laid by. From garden and orchard came pumpkins, watermelon, luscious persimmons, apples, and peaches.

In one year the Carter family, including servants and guests, consumed "27,000 Lbs of pork; & twenty Beeves, 550 bushels of wheat, besides corn 4 Hogsheads of Rum, & 150 Gallons of Brandy."

On her master's cooking the Negro woman expended care and love. It was done before the open fire in the cookhouse, the venison, mutton or turkey being carefully turned on the spit, while the juices were collected in dripping-pans. Meat was eaten three times a day, and the breakfast table groaned under the burden of roasted fowls, ham, venison, game, and anything else the family might choose for the delectation of their palates, all washed down with tea or coffee poured by the lady of the house.

In the fine art of drinking, the planters were adept. Whisky, which was later to play such an important role, had not come into fashion, but every ship that made fast unloaded barrels and cases of rich wine from the Azores and Madeira, and aromatic rum from the West Indies, not to mention rare Burgundies, clarets, and Rhine wines.

And what of Cuffy and Cudjoe in their cabin in the slave quarters? The Negro made shift with some such ration as a quart of cornmeal and half a pound of salt pork per day, plus occasional sweet potatoes, cowpeas, sirup, fruit, rice, "garden sass" and an occasional chicken given him by his master.

## AGRICULTURE

Tidewater and Piedmont civilization, as has been seen, was built on tobacco. But the placid Tidewater and the verdant Piedmont and the westward extension of Virginia to Kentucky and Tennessee were not the whole South. There were the lush lowlands, the fetid swamplands of Carolina, Georgia, and Louisiana, where whites could not work, but blacks could. Here, in the eighteenth century, crops other than tobacco became important.

In 1686, according to one account, the captain of a New England brigantine, one John Thurber, putting into Charleston harbor, distributed among the early Carolinian settlers a peck of gold seed rice of superior quality. The torrid climate and broad tidal rivers of the deep South were ideal for rice culture. As early as 1700, three hundred tons of rice were shipped back to England, and thirty to the West Indies.

The first rice fields of the South were land swamps, where the soil was rich and there were few large trees or heavy underbrush to be removed. Dams were built at the lower end of the swamp, where the fresh water of the rivers backed up and receded according to the ebb and flow of the tide in the harbor, and draining ditches were dug throughout the fields. About the only implement needed in the cultivation of rice was the hoe: ground was





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from "The Williamsburg Art of Cooking"*

### A WILLIAMSBURG KITCHEN

"One pound of this Cookery wou'd keep a Man in good Heart above a Month," wrote William Byrd in 1729. Already a famous product of Virginia kitchens was the ham, which here occupies the place of honor among the fowl and game suspended from the ceiling. Williamsburg was the center of hospitality in the colony, and its inhabitants were noted for their extreme civility toward strangers.



broken up with it, ditches dug with it, and from time to time it was used to cultivate the growing plants.

The rice was cut with a sickle and carried in bundles to the barnyard. Here it was placed on the ground and beaten with one of the most ancient of all agricultural implements—the flail—to remove the heads of the grain. Then it was winnowed in an equally primitive manner in the “winnowing house.” These winnowing houses were small wooden buildings raised about twenty feet off the ground, with openings cut in the floors so as to permit the grain to be dropped through. In this process, the breeze blew the chaff away while the heavier rice dropped to the ground. Some rice planters built water mills to provide for the turning of two large stones between which the rice was hulled. It was not until after the Revolution that improved methods of cleaning rice for market came into use.

When Elizabeth Lucas, the daughter of an English colonial official, was left in charge of her family’s Carolina plantation, she planted some indigo seeds which her father had sent from the West Indies. With industry and perseverance she succeeded in developing a new product which was to take a prominent, if temporary, place in Southern agriculture.

To change the leaves and branches of the indigo plant into dye for woolens, silks, and calicoes, they were thrown into a vat, covered with water, and pieces of wood put on top to keep the plants from rising out of the water. The solution was allowed to ferment, a process requiring from eight to twenty hours. When fermentation took place, the water turned blue. Then the cocks were opened and the liquid was run off into another vat. Here lime water was added to the liquid and it was churned or beaten until grains formed. The grains were allowed to settle to the bottom and the liquid drained off. The indigo grains were then exposed to the air to dry, made up into cakes, packed into wooden casks and shipped to England.

Unfortunately for the indigo producers of the South, however, at the close of the War England had no further interest in the welfare of the freed colonies, and discontinued the bounty hitherto paid. By this time cheaper indigo was being shipped to England from the East Indies, and thus, with no market for the commodity, the day of indigo was over so far as the planters were concerned.

## TRANSPORTATION

Some of the largest proprietors, like Robert Carter, attempted to level and smooth the roads leading to the different parts of their plantations. But the weather played havoc with the roads and left them muddy or dusty according to the season. Riding was by far the most practical means of getting about, as well as an excuse for the diversions the Virginians loved.

The planters also traveled in coaches, chariots, chaises and chairs similar to those used in the North in the eighteenth century. By the middle of the

century there were at least fifty coaches in Virginia, elaborately painted by foreign artists (some with nymphs adorning the ceiling), hung in damasks and satins, with strap-hung platforms behind, whereto the footman clung. The most elegant ones had a "hammar cloth" of embroidered silk, with long and waving fringes, thrown over the driver's seat.

Mr. Carter, of Nomini, traveled in a small chair with two attendants, while his dame frequently was to be seen of an afternoon with her three daughters in a chariot, with coachman, driver, and postilion, the gentlemen



THE POWEL COACH

This graceful coach was one of a pair brought over from England for George Washington and for Mrs. Powel of Philadelphia. Originally, both had the high driving seat appropriate to state coaches of the period, draped in a voluminous "hammar cloth." The panels of Washington's coach were decorated with medallions representing the four seasons.

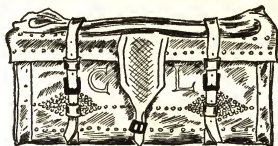
of the family accompanying them on cavorting thoroughbreds. "Almost every Gentleman of condition, keeps a Chariot and *Four*; many drive with six Horses," wrote Fithian in 1773. And the Abbé Robin who traveled in the South in 1781 wrote: "Their riding machines are light and handsome and drawn by the fleetest coursers managed by slaves richly dressed."

Some members of the Carter family went to Nomini Church in a boat manned by four men, while others from the household rode; the boat generally arrived as soon as the riders.

Until the Revolution, the Southern colonists continued to order their vehicles from England, in spite of the fact that English coach-makers had come to Virginia, as shown by an advertisement in the *Virginia Gazette* of March 30 to April 12, 1739, to the effect that "Samuel Bowler, *Coach-maker from London, is lately come to settle at Williamsburg, and undertakes to serve Gentlemen in Making and Repairing Coaches, Chariots, Chaises, and Chairs, and their Harness for them.*"

One of Washington's many London orders was for "One man's riding

saddle, hogskin seat, large plated stirrups, double reined bridle and Pelham bit plated. A very neat and fashionable Newmarket saddle-cloth." And Mary Washington, his mother, bequeathed a silk plush sidesaddle to her daughter.



AN OLD COACH TRUNK

Redolent of the old stagecoach days are the narrow heavy-framed deerskin or pigskin trunks, studded with brass nails, which, along with carpetbags and leather sacks, burdened the top and back of every stage. In earlier days "trunks" were really made from hollowed tree trunks cut to fit the width of the vehicle which was to carry them; later, they were made to look like tree trunks, often of buckskin with the hair left on.

In a burst of lyricism, travelers have compared the Chesapeake with the pillars of Hercules, and Tidewater Virginia with Venice. True it is that as in the doges' palaces, the steps of the Tidewater mansions led to the water's edge, and that not only the transport of the great staple commodities, but also almost all travel for social purposes took place on the water. Chesapeake Bay has been likened to a great roadway, with the broad, copper-colored rivers as secondary arteries, and the myriad creeks as alleys and lanes.

In addition to a quantity of small river craft such as skiffs, rowboats and canoes, for fishing and coasting a somewhat ungainly but fairly seaworthy little vessel was utilized—the shallop, equipped with mainmast, foremast, and large sails.

For curiosity's sake it might be mentioned that the town of Williamsburg once took a fling at whaling. Several Williamsburg gentlemen fitted out a small sloop, the *Experiment*, which in 1751 brought in a sizable whale.

## INDUSTRY

With large fortunes to be made in agriculture, the colonists of the South did not give much thought to industry in the eighteenth century. Experiments in making silk were carried on by a few of the more enterprising planters and their ladies. In 1755, Elizabeth Lucas, by this time Mrs. Charles Pinckney, raised silkworms and spun enough fine silk to make three dresses. On a visit to England she presented one of these dresses to the Dowager Princess of Wales and another to Lord Chesterfield. The third dress remains in the possession of her descendants, proving the excellent quality of the silk.

Quantities of pig iron, beeswax, hogsheads, staves, pipes, shingles, pitch and tar, deer and beaver skins, were exported to Great Britain from time to time, but the volume resulting from these industries was small compared with that from the great agricultural exports.

Every plantation had "tradesmen" among its servant population. The slaves at Nomini Hall included eleven carpenters, two joiners, a bricklayer, a blacksmith, a miller, a tanner, a shoemaker, a hatter, a sailor, a carter. But in general, household manufacturing was carried on on a smaller scale than in the North, although spinning and weaving went on in the homes of the well-to-do and the common people alike.

### LIFE IN THE COMMUNITY

Toward the end of the eighteenth century there began to grow up the "Slave School," often little more than a basement room in the Great House where the chatelaine taught the little darky boys and girls their "three R's." For the planter's children it was customary to have a tutor in the house, like Philip Fithian. One of the entries in his diary describes a school day:

"Busy in School—We dined at 3. The manner here is different from our ways of living in Cohansie—In the morning so soon as it is light a Boy knocks at my Door to make a Fire; after the Fire is kindled I rise which now in the winter is commonly by Seven, or a little after. By the time I am drest the children commonly enter the School-Room, which is under the Room I sleep in; I hear them round one lesson, when the Bell rings for eight o'clock (for Mr. Carter has a large good Bell of upwards of 60 Lb, which may be heard for some miles, & this is always rung at meal Times,) The Children then go out; and at after eight the Bell rings for Breakfast, we then repair to the Dining-Room; after Breakfast, which is generally about half after nine, we go into School, and sit till twelve, when the Bell rings, & they go out for noon; the dinner-Bell rings commonly about half after two, often at three, but never before two—After dinner is over, which in common, when we have no Company, is about half after three we go into School, & sit till the Bell rings at five, when they separate til next morning; I have to myself in the Evening, a neat Chamber, a large Fire, Books, & Candle and my Liberty, either to continue in the School-Room, in my own Room, or to sit over at the great House with Mr. & Mrs. Carter— We go into Supper commonly about half after eight or at nine . . ."

Another entry gives an idea of the lessons learned:

"We began School—The School consists of eight—Two of Mr. Carter's sons—One Nephew—And five Daughters—The eldest Son is read-

ing Salust: Grammatical Exercises, and Latin Grammer—the second Son is reading english Grammar & Reading English: Writing and Cyphering in Subtraction—The Nephew is Reading and Writing as above; and CIPHERING in Reduction—The eldest daughter is Reading the Spectator; Writing; & beginning to Cypher—The second is reading next out of the Spelling-Book, and beginning to write—The next is reading the Spelling-Book—the fourth is Spelling in the beginning of the Spelling-book—and the last is beginning her letters.”

How many of us could answer the questions in an Old Dominion deerskin-bound arithmetic dating from the end of the eighteenth century?

“Suppose a Bird-cage be 2 Feet long, 1 Foot broad, and 9 inches deep. I demand how many Birds it will hold, allowing each Bird 1 Pottle of Air?”

“Admit when Earl Cornwallis was besieged in York, there were sundry goods there of £5675 Value insured at 6-½ pr. Cent abatement if lost, Query the Value of Short Recovery?”

“When the City of Williamsburgh was in Danger of being possessed by the Troops of the King of England, what sum ought I to insure to recover £7252:10 Value there at 16-½ pr. Cent Premium and 4-½ pr. Cent Discount. in Loss?”

It was the fashion to send the sons of Tidewater aristocrats to Oxford for their university training, but the beautiful college of William and Mary at Williamsburg, designed by Wren and rebuilt about 1716 after a fire, attracted more and more students, including Thomas Jefferson, who spent there two years. The charter provided for “one hundred schollars, more or less,” and there were sometimes as many as twenty Indians boys, under the direction of the “Indian Master.”

It has been truly said that the life of the South was in the fields, and therefore not conducive to the intellectual development, but some of the leading planters were men of culture, well versed in the classics and fond of adorning their discourse with quotations. William Byrd of Westover, whose own jottings are sprightly and informative, had the largest library in the South, containing over thirty-six hundred volumes, of which, according to one classification, seven hundred were devoted to history, six hundred and fifty to the classics, five hundred and fifty to French, three hundred and fifty to law, three hundred to divinity, two hundred to “Physic,” two hundred and twenty-five to science, and six hundred and fifty to entertaining and kindred subjects.

The prevalence of such titles as Galen’s *Art of Physick*, *The Chyrurgan’s Mate* and “a chirurgicall old Book”—these are from the library of Ralph

Wormsley of Rosegill, who died in 1701—suggests that as in every region where the population is widely distributed, the master and his lady had to have a working knowledge of the elements of medicine. Such doctors as there were, relied on primitive cure-alls like bleeding, jalap (a Mexican plant root with purgative effects), and stray plasters. It is a matter of record that Wash-



AT THE APOTHECARY'S

A large gilt mortar and pestle over the doorway indicated the apothecary's shop, and a mysterious place it was, too. Here were to be found wicked-looking black and brown bottles of colonial days, containing such herbs as Snake Root, Rutabaga, Dog Wood Bark, Gum Arabic, old-fashioned drugs and even leeches, which in the course of time gave way to oval and octagonal bottles often decorated with the American Eagle. Perfumes were sold here, in long-necked containers, under such compelling names as New Mown Hay, Maid of the Mist, and Lily of the Valley.

ington died as the result of an excess of blood-letting when in full vigor and suffering from nothing more serious than a throat infection.

Low indeed in the scale of training and moral worth were some of the persons foisted upon the colonists by the Mother Church. Fiske quotes the example of a minister who for nearly twenty years received an annual bequest of a hundred pounds for preaching against irreligion, cursing, adultery, and drunkenness, when he was notoriously guilty of all of them; the dying words of this convivial sinner were halloos to the hounds! Lawyers also sometimes originated as assorted rascals whom England sent over for good riddance; the legal profession, nevertheless, was destined to improve. Planters with large estates to administer, and the destinies of a young republic in their hands, cultivated the quality of judiciousness. At the Leadbetter Drug Store in Alexandria one could listen to legal and political discussions between such men as Patrick Henry, George Mason, and Judge George Johnson.

Before 1736 the accepted means of circulating news was by the spoken word, by letters, or by notices posted on the Court House, Church, or Tavern door. But in 1736 the *Virginia Gazette* appeared in Williamsburg, a weekly twelve by six inches in size, containing the "freshest Advices, Foreign and

Domestick" in the form of letters, in the manner of the *Taller* and the *Spectator*; a poet's corner; and such advertisements as this: "A group of indentured servants has escaped in a long boat, among them a man wearing a dark wig, a red Daffit coat and blue cloth breeches; a lusty fat English-woman in gold-laced hat and brown Holland gown." Another calls attention to the fact that a Negro slave is missing called Cajar, a man "with a downcast look and a voice that sounds as if coming out of a tree."

The *Alexandria Gazette* has been published continuously since 1784.

## AMUSEMENTS

Since the planters' social life was patterned upon English country life, it was natural that the horse should play a considerable role. Fox-hunting and racing were the leading relaxations. General Washington attended over a hundred and fifty hunts in six years, and did not give up riding to hounds until he was sixty-three.

Here are jottings from a record of Washington's daily life at Mount Vernon:

"Surveyed a water-course, Began 'stilling cyder. Began to cut Timothy. Put new girders in my Mill where they had sunk. Rid to Muddy Hole. Fox Hunting with Lord Fairfax. Home alone all day. Directed the running of a fence. Exceedingly hot. Went to Alexandria to see the tragedy of Douglas played. Colo. and Mrs. Fairfax dined and lodged here. Rid out with my hounds. the new negro, Cupid, ill of pleurisy; brought him home in a card for better care. Rid round and examined wheat fields. Mrs. Washington has measles. Mrs. Fairfax called on her. Wind cold and high. Went ducking. Killed two mallards and five bald-faces. A dance at Gadsby's Tavern in Alexandria. Fox hunting. Catch'd two foxes. Dined with the Fairfaxes at Belvoir."

By the middle of the century great interest had been aroused in the importing and breeding of thoroughbreds, and the horses of Virginia were on the way to becoming the finest in the world.

Racing was dear to the planters' hearts. One of the first horse races of which the records have come down to us was held in Charleston in 1739, when a saddle and bridle was awarded the winner. And it was in Charleston, in the early part of the eighteenth century, that the first Jockey Club in the world came into being. Williamsburg, too, was a great racing center.

Southern gentlemen were also addicted to the baser sport of cockfighting. Washington noted: "A Great Main of .cks was fought in Yorktown .etween Gloucester and York for 5 pistoles each battle and 100 ye odd."

It was not uncommon for a planter to lose indentured servants over the card table or stake slaves on the throw of a die. "Burn me if I pay anything

more for such sport," exclaimed Colonel Landon Carter, vexed over the extravagances of his sons, and he was neither the first nor the last father to feel that way.

An example of a more innocent day's diversion on William Byrd's property can be culled from a Virginia newspaper of 1737. From the last lines it appears that the "beauty contest" was not unknown in that day.

"That a Hat of the Value of 20 s be cudgell'd for; and that after the first Challenge made, the Drums are to beat once every Quarter of an Hour for Three Challenges round the Ring; and none to play with their Left Hand.

"That a Violin be played for by 20 Fiddlers, No Person to have the Liberty of playing, unless he brings a Fiddle with him. After the Prize is won, they are all to play together, and each a different Tune, and to be treated by the Company.

"That 12 Boys of 12 Years of Age, do run 112 Yards for a Hat of the Value of 12 Shillings.

"That a Flag be flying on the said Day, 30 Feet high.

"That a handsome Entertainment be provided for the Subscribers and their Wives. . . .

"That Drums, Trumpets, Hautboys, &c. will be provided, to play at the said Entertainment.

"That after Dinner, the Royal Healths, His Honour the Governor's, &c., are to be drank.

"That a Quire of Ballads be sung for, by a Number of Songsters, . . . and all of them to have Liquor sufficient to clear their Wind-Pipes.

"That a Pair of Silver Buckles be Wrestled for, by a certain Number of brisk young Men.

"That a Pair of handsome Shoes be danced for.

"That a pair of handsome Silk Stockings of One Pistole [about \$4.00] Value, be given to the handsomest young Country Maid that appears in the Field . . ."

To Williamsburg, it is claimed, goes the honor of having the first regular theater in America. On August 21, 1752, "The Merchant of VENICE, (written by Shakespear) and a Farce, call'd The Anatomist, or Sham Doctor" was announced in the *Virginia Gazette* for the first Friday in September. The play would begin at about six o'clock, and it was the custom for the planters and their wives, in town for the Assembly, to send their slaves two hours earlier, to hold their seats for them until they themselves should arrive.

Among diversions in the Great House, dancing held the place of honor. Balls went on for days, and all school lessons were stopped when the dancing master arrived. Fithian, who was rather vexed that his New England upbringing-



ing had not included training in this decorative pastime, thus records the day of Mr. Christian's visit:

"We went in to Breakfast at ten; . . . After Breakfast, we all retired into the Dancing Room and after the Scholars had their Lesson singly round . . . there were several Minuets danced with great ease and propriety; after which the whole company joined in country dances. . . . The Dance continued til two, we dined at half after three—soon after Dinner we repaired to the Dancing-Room again; I observed in the course of the lessons, that Mr. Christian is punctual, and rigid in his discipline, so strict indeed that he struck two of the young Misses for a fault in the course of their performance, even in the presence of the Mother of one of them! . . . When the candles were lighted, we all repaired, for the last time, into the dancing-Room; first each couple danced a Minuet; then all joined as before in the country Dances, these continued till half after Seven when Mr. Christian retired; . . ."

Stately minuets were varied with "giggs," reels—including the Sir Roger de Coverley, which was to declare its independence from England and become the Virginia Reel—other country dances, and an occasional march. General Washington, be it noted, was particularly fond of "stepping to a tune."

Music was provided by the Negroes who had brought with them from Africa the "bania," which evolved into the banjo. Advertisements for escaped slaves and the like are full of such references as "he can play on the violin"; "he took his fiddle with him"; "he played exceedingly well on the banjer and generally carries one with him," or "to be sold a healthy Negro fellow who has been used to wait on a gentleman and plays well on the French horn."

However, the art of music was by no means restricted to the Negroes. Planters' homes contained fiddles, hautboys, French horns, flutes, virginals, spinets and harpsichords. "Mr. Carter," writes Fithian, "is practising this evening on the *Guittar*. He begins with the *Trumpet Minuet*. He has a good Ear for Music; a vastly delicate Taste: and keeps good Instruments, he has here at Home a *Harpsichord*, *Forte-Piano*, *Harmonica*, *Guittar*, & *German Flutes*, & at Williamsburg, has a good Organ, he himself also is indefatigable in the Practice."

The ability to play on the virginal was considered a genteel and desirable accomplishment among young ladies. The boys engaged in robust forms of music as the young Tutor's outraged protest shows: "Sunday . . . This Evening the Negroes collected themselves in the School-Room, & began to play the *Fiddle*, & Dance—I was in Mr. Randolph's Room;—I went among them, *Ben* & *Harry* [Carter's sons] were of the company—*Harry* was dancing with his Coat off—I dispersed them however immediately."

Thomas Jefferson, in addition to being a crack shot and a fine horseman,

was fairly good on the violoncello, and when the British prisoners captured at Saratoga were encamped near Monticello, he enjoyed playing with a German officer who was an accomplished violinist.

A picturesque note was added to plantation life by the dances, the clogs, the cakewalks and "charlestons," the work songs and other songs, the revivals and "shouts," the torchlight 'possum and 'coon hunts, the crap game, the log-rolling, the house raising, the husking bee, the quilting party, the baptisms, weddings, and funerals of the darkies.



## CHAPTER IX

### THE YOUNG REPUBLIC: Eagles and Lyres

#### INTRODUCTORY

AND now a door is closed. The colonies, as such, have faded from the scene. A new country is born, destined to become one of the greatest in the world. No longer does the historian write of Englishmen. He writes of Americans. No longer do decorative forms hark to England for their inspiration. They turn to France, the new country's ally in the war of liberation. Or they use native themes. The American eagle is the symbol of this epoch.

At the same time a new door is opened. The fledgling states engage in a dramatic struggle with the parent country for the benefits of the machine and emerge victorious. During this period, little by little, the inventions come into use which are to change the manner of living of the whole civilized world.

From the aesthetic point of view, the change, alas, does not mean progress. The craftsman is doomed, and with him the products of his handicraft. During the first hundred years in which this country was settled, everyday things gradually emerged from the strictly utilitarian, until, during the second century, they reached a perfection of form, fashioning, and decoration that has rarely been surpassed anywhere. But at the dawn of the third century the objects with which man surrounds himself began to lose their individuality and charm. Taste gradually sank into a morass from which it was not to emerge until still another century had passed and the machine had created its own style.

#### HOUSES

Three different types of architecture were in favor during the first fifty years of the young Republic. Generally speaking, they succeeded each other, but no well-defined limits can be assigned to each phase. First, the final and most graceful phase of the Georgian style came to flower; this was classicism tempered with common sense and adapted to a different time and place. Second, here and there arose a number of buildings mainly Roman in inspiration. This expression of classicism was largely the creation of one man—Thomas Jefferson. The new mode served principally to pave the way for the third phase, when the country was engulfed by a wave of uncritical admiration for Greek forms. This was classicism with a vengeance.

After the buried cities of Herculaneum and Pompeii in Italy were excavated, the motifs used in decorating the ancient Roman houses were adapted by Robert Adam, a great British architect, to the originally robust Georgian style. The result, to which his own genius contributed, was to refine it, making it lighter, more delicate, and more graceful.

Entrances to houses became less ponderous. Columns, if used at all, were more slender. Often they were only slightly larger than those used in the preceding period to decorate fireplaces. Elaborate pediments over doorways gave way to elliptical or semicircular fanlights. On either side of the doorway were rectangular or rounded sidelights and the space between the door and sidelights was ornamented with relief work. These exquisite, graceful doorways let in more light. Arches replaced the heavy, protruding window frames of the second Georgian period.

Inside the house ceilings of plaster were ornamented in low relief with the beautiful Adam motifs of urns, garlands, rosettes, scrolls, vines, wreaths and festoons. These ceiling decorations were the first in the Adam style to be used in America, and Washington had some executed at Mount Vernon when the Revolution was at its height. Instead of being paneled, walls were covered with smooth plaster, usually oyster white, but sometimes a delicate shade of cream, pink, rose, lilac, or green. Old cornices were replaced by delicate molding, pediments over doors—occasionally—by light arched frameworks decorated in the same way as the ceilings. The mantel became smaller and simpler, often with slender reeded columns at the side. In place of the heavy overmantel might be a large mirror outlined in graceful relief, or the whole space might be simply covered with bright wallpaper. Frequently, instead of being square or rectangular, rooms were round, elliptical or octagonal. Staircases too gave expression to the fashion for curved lines. Often spiral, they were made of mahogany, with simple balusters and simple molded handrails, and stood out attractively against the light colorings of the walls.

At its most delicate, the Georgian house tends to suggest a finely carved piece of furniture. So it was not surprising, even in colonial days, to find carpenters and wood carvers becoming designers and builders of houses in their own right. Probably the most famous of the carpenter-architects was Samuel McIntire, the wood carver of Salem, who was best known for his exquisite doorways, with their elliptical fanlights and sidelights, and ornamented gateposts and fences, and for the beautiful carvings of his interiors. The rise of McIntire marks the appearance of the professional architect.

From 1792 until the end of the century Charles Bulfinch, who designed the Boston State House, was the leading architect for well-to-do Boston families. Also his idea was the first group of uniform houses in the country, a notion which he borrowed from the brothers Adam, but which was quickly copied in America.

Of gentlemen-architects there were a great many, since it was the business

of every well-to-do and cultivated man to have a knowledge of the principles of architecture. None was more eminent or more worthy of study than Thomas Jefferson. Like Franklin, he had the type of mind which grasps the essentials of any subject upon which it is brought to bear, and, like Franklin, he was indefatigable. Outside of his political and philosophical activities he found time to do a thousand things from dowering the country with a new school of architecture to playing the violin and supervising the scheduling of his little niece's dancing lessons. In his fondness for gadgets he deserves a particular niche in the affections of the readers of this book. If any Americans can be considered the patron saints of everyday things in America, they are Benjamin Franklin and Thomas Jefferson.

The architectural principles put forward by Jefferson reflected his political ideas. The author of the Declaration of Independence wanted the young Republic to reject British sovereignty in questions of art as well as in politics, to start afresh with a new and individual style. He felt that by living up to the glorious example of Greece and Rome, the Republic he had helped to found could justify itself. How better could this idea be emphasized than by adopting for its buildings the style of the Greek and Roman models?

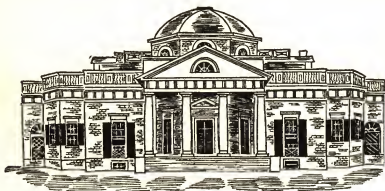
During his sojourn in France as Minister, and during his frequent trips to other parts of Europe, he never lost an opportunity to study Roman monuments and their contemporary adaptation. Finally his fertile brain gave birth to an interpretation of his own which, like American Georgian, was suited to the American background. Jefferson left his mark not only on his own home and those of his neighbors in Virginia, but also on the state capitol at Richmond, on the White House at Washington, and on practically the whole of the University of Virginia. The return to a fairly uncompromising classicism preceded the classic revival in Europe, as the capitol at Richmond did the Madeleine in Paris, by twenty years.

Jefferson was born at the foot of a little mountain which he chose to name Monticello, on his father's estate in the beautiful Piedmont section of Virginia, where the red earth contrasts with the luxuriant green of the forest. His dearest dream was to build himself a home on the top of the mountain; he had only been out of college a year when he began to level the ground. When he married, the house itself existed only on paper, and he took his bride to a one-room brick cottage which still exists and forms part of the general plan. At the end of his political career he completely remodeled the main building, declaring that "putting up and pulling down is one of my favorite amusements." Monticello was thirty-five years a-building, and the life story of its owner is stamped on every brick.

It owes its beauty as much to the contrast between the red brick and white woodwork with the vivid green of the great oaks before its door, and of the forest-covered mountains and valleys around it, as to the attractiveness of its architecture. The main building is solid and four-square, surmounted by a

massive dome, and having entrances on both sides ornamented by large pillars. Joined to it are two small wings having only a ground floor and an attic. These communicate with the kitchen and offices which form a kind of basement beneath a terrace.

Though the general shape and robust solidity of the building are Roman in feeling, French influence was paramount in the interior of the house. In contrast to the Georgian, houses in the style of Louis XV do not emphasize a



MONTICELLO

Jefferson considered the houses along the Tidewater to be groaning under a "burden of barbarous ornaments," and declared of the old houses at Harvard and at William and Mary, "but they have roofs, [they] would be taken for brick kilns." His own home, on a mountaintop in the verdant Virginia Piedmont—the name *Monticello* bespeaks the Italian influence—was intended to express his interpretation of the principles of Palladio. It was on his return from travels in Italy that he added the dome, suggested by that of Palladio's "Villa Rotunda." The idea that the ceiling of one room should serve as the floor of another was repugnant to Jefferson, and he strove to give the impression of a one-story building.

central hall and a main staircase. In the interests of privacy, the house is broken up into a greater number of elements: reception rooms and salons, bedrooms with dressing rooms attached, and dining rooms with service pantries. Stairways are smaller and there are more of them; often they are hidden from view.

Monticello was the first house in America to embody these features. The octagonal salon projecting into the garden was an adaptation of the elliptical Louis XV salon. In each of the passages extending from the entrance hall is an inconspicuous stairway only twenty-two inches wide. In twelve of the thirteen bedrooms the beds are recessed into the wall, French style, the mattresses being supported on slats or rope laced to hooks in the walls. Jefferson's own bed was built into the wall between his bedroom and his study, having access to either. Directly above it was a hiding place for his bodyguard,

which is probably more of a tribute to his inventiveness than an indication of fear for his own safety.

His love of gadgets found complete expression in his own home. A compass on the ceiling of the east portico, connected with the weather vane on the roof, shows the direction of the wind. Over the east entrance is a clock with two dials, one facing the porch, the other the hall. Attached to it is a string of cannon balls which as they slowly descend with the unwinding of the string, indicate the day of the week on a huge scale. Fixed to the double glass door between the hall and the drawing room is a contrivance whereby one side of the door opens automatically when the other is opened. In the mantel of the dining room are two small dumb-waiters; when one was sent down with an empty bottle in it, the other came up with a full one. The effect must have been irresistible.

Jefferson turned the attention of the public of his day to the architecture of antiquity, thereby putting them in a receptive mood for the tidal wave of classicism which came from Europe. Known as the Greek Revival, it is generally considered to have come from England about the turn of the century. For more than a score of years it flourished. Interest in it was heightened by the Greek War of Independence of 1821-29, in which the poet Byron lost his life. From the prosperous seaport towns of New England and the aristocratic centers of the South, to the ramshackle pioneer towns of the West, almost every man who could afford it built himself a house in the style of a Greek temple. Or else he remodeled his old one, adding to it a portico with Corinthian, Doric, or Ionian columns one or two stories high. The summit of his ambition was to surround it completely with columns, but because of the expense he usually had to content himself with a four, six, or eight-columned portico. Even the plantation office and school might be in the Greek style. At Bremond, a lovely country house designed by Jefferson, there is a stone cow-barn decorated with a Greek portico with imposing columns.

In the new style the graceful rounded lines of the Georgian were dispensed with. Doorways had square heads, with low, rectangular transoms above them, and narrow, vertical sidelights at either side. Windows were larger and fewer and the window trim was flat.

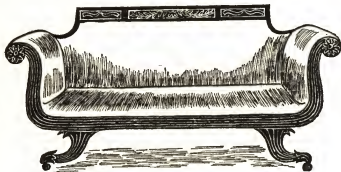
At this time ironwork became more popular, and many homes had elegant iron gateways, fences, balustrades, balconies, and window grilles.

The Greek Revival is at its best in those Southern mansions whose beauty lies in the lights and shadows of the huge porticoes, and the magnolia trees surrounding them, and in the general atmosphere of spaciousness and hospitality they created. It lasted until well after the middle of the century, but in the reconstruction era people suddenly awoke to the fact that it might not always be entirely appropriate to this country. They did not, however, succeed in replacing it with anything better.

## FURNITURE

At about the time Washington said good-by to his officers and retired to Mount Vernon there landed on these shores a young Scotsman whose ancestors, members of the Clan Mackenzie, had tended sheep on the bleak Highland hillsides. For fifty-six years he plied his trade of furniture maker and did not shut up shop until the first rumblings could be heard of the storm that was to be the Civil War. His connection with American history lasts even longer than that, for in his shop worked William Marcy Tweed, father of the famous Boss Tweed, the original American gangster. This Scot's name was Duncan Phyfe and he became America's best known furniture maker.

During the years which carried the country from the leisurely prosperity of Washington's day to the vigorous era of Jacksonian democracy he followed each of the succeeding styles, Hepplewhite, Sheraton, Directoire, Empire. But always he added a touch of his own, for he was an artist. Setting him-



DUNCAN PHYFE SOFA

Such heavy, upholstered Duncan Phyfe sofas of the late Empire (1810-1825) type had little of the delicacy of the earlier models, with their fine carving and inlay. Yet with its graceful, outcurving legs and arms and noble proportions it is a fine example of the style.

self the goal of producing nothing but the best, he used only the finest woods, selected with the utmost care. Exporters from Santo Domingo and Cuba would refer to their choicest pieces of timber as "Duncan Phyfe logs." Sometimes he would pay as much as one thousand dollars for a single log. Even the glue he used was the best Peter Cooper could supply. The craftsmanship of his pieces was of supreme quality and the decorations were done with infallible good taste. This was truer of the first thirty years; his work of the "canal boat" era is inferior by comparison. But it was simply reflecting the trend of the times, and Duncan Phyfe pieces were still better made than those of most other craftsmen. In 1847 he closed his shop which extended through three pleasantly proportioned Georgian houses on fashionable Partition Street in New York (now Fulton Street), and retired to his home across the way.



Here in a tiny shop in the back yard he occupied his declining years with making gifts for members of his family: sewing tables, boxes, cradles, and doll furniture.

Phyfe's best years coincided with the Early Republican era. Largely from patriotic motives, American cabinetmakers turned from the Chippendale style to a revival of the classic inspired by that of Louis XVI in France and of Robert Adam, the English architect. As in the case of the Jeffersonian Roman-style buildings and the buildings of the Classic Revival, this type of furniture, with its aesthetic kinship to the Roman Republic, was considered appropriate for the homes of the citizens of the new state.

Adam was one of the few architects in the world who regarded furniture as of the same importance as buildings. With his brother he designed many pieces to suit the houses built under their direction, and their ideas were executed by the leading cabinetmakers. Pre-eminent among these was Hepplewhite, whose book of designs, published in 1788, soon found its way across the Atlantic, to influence cabinetmakers in America. It was shortly followed by the publications of Sheraton, another fine craftsman, which appeared from 1791 to 1804. These men were as much under the French influence as that of Adam, and the student of this period finds that furniture styles are even more intermingled than architectural styles. The Chippendale mode yielded slowly. Later, combinations of Sheraton and Directoire types were not infrequent, and appeared even in the Empire period.

In contrast to Chippendale, Hepplewhite and Sheraton pieces are rectangular and straight. Chair backs are in wood, of openwork design, Hepplewhite's often shaped like a shield, Sheraton's often oblong or square. Chair and table legs are straight, tall and slender; both Hepplewhite's and Sheraton's either square and tapering, or round. Both used the spade foot. For decoration these pieces were turned, reeded and fluted, with moldings in delicate classical patterns, and veneer, inlay and marquetry. Light colored and rare imported woods are used. In the first years of the nineteenth century furniture was often painted, both in colors and in gold.

The Directoire period was a transitional one, the smaller and lighter pieces showing the influence of Sheraton, while the heavier ones forecast the Empire style of the Napoleonic era. Straight and curving forms were combined. The influence of the Empire style made itself felt after the War of 1812, as an ingredient of what was really a native American style. During Jefferson's Presidency, when Benjamin Latrobe, who had spent many years abroad, was appointed architect of public buildings at Washington, the Egyptian and Roman motifs cherished by Napoleon and the classicism of David, the great French painter, were enthusiastically adopted by American cabinetmakers. The heavier pieces, such as four-poster beds, and tables and wardrobes, became massive and bulky. Curved lines returned in chairs and in the arms and

legs of sofas, which at their best were suavely graceful, if lacking in the refinement of the preceding styles.

The fervent patriotism of the citizens of the young Republic found expression in the symbols used in decorating the furnishings of their homes. The American eagle, that patriotic bird, was everywhere to be seen; in pictures, furniture, pottery, draperies and bedspreads; perched on the tops of mirrors, and cleverly worked into the inlays of American-made Hepplewhite



A FANCY CHAIR

"Fancy" chairs were not always very fancy, although this rather unusual example boasts added rockers and a sway back. The adjective refers more to the fact that the entire frame was painted, and the back decorated with stenciled designs. While these usually represented leaves and fruits in conventionalized patterns, they sometimes depicted houses, fountains, and birds.

and Sheraton pieces. Portraits of Washington, some of them with weeping willows and goddesses of liberty leaning on funeral urns inscribed with his name; flags; more eagles; and scenes from the War of 1812, were used on glass panels in mirrors and clocks; similar scenes and symbols were printed from engraved copper plates on the imported *toiles de Jouy* used for walls and chair coverings, bedspreads, curtains, and draperies. Similar motifs were used in wallpaper.

Chairs were graceful and attractive. Most fashionable was the "fancy chair." Sheraton evolved a design which in a modified form was seized upon with such avidity by American chair-makers and the American public that its production became an independent business. Shops sprang up throughout the North. Two hundred members of the craft of fancy chair-makers took part in the parade to commemorate the Erie Canal. The fancy chair was a simple, light side or armchair, painted in white and green, black and gold,

red and gold, or gilded. The Martha Washington armchair had high, upholstered back and Hepplewhite arms and legs. Curious and amusing were the Hepplewhite settees with several chair backs in a row. The rocking chair was often in evidence.

There was also a pleasing variety of attractive tables of every size and use; dining tables; serving tables; tables for tea, for cards, for sewing, and for prinking; candlestands for the bedside and little desks on which to write



A BANJO CLOCK

After the Revolution, lack of money and lack of materials stimulated the making of cheaper and smaller clocks. The Willards of Massachusetts, America's greatest family of clockmakers, designed and patented the banjo clock, in 1802, which, although much smaller than the grandfather clock, kept as good time and could be more easily produced in quantity.

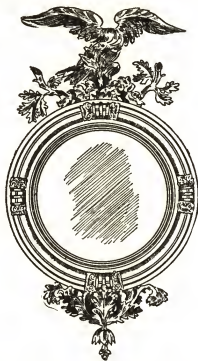
letters or memoirs. Phyfe's pedestal tables in the Directoire style with urn, lyre-shaped, or colonette support were among his best pieces.

This period saw the birth of the sideboard, which began its career as a side table flanked, Adam style, by two pedestals, with classic urn knife boxes. Often of mahogany, it was decorated with inlays or carved panels. Sheraton models were popular, and of course it was also later produced in the Empire style, which was attractive enough if handled with restraint, but which was usually made too cumbersome.

Some of the most beautiful pieces in the Hepplewhite manner were tall desks and chests of drawers of satinwood and mahogany combined, with serpentine fronts and delicate French style bracket feet. In place of high

chests of drawers, the wardrobe came into use. It was treated architecturally, being decorated in front with pilasters or pillars with carved capitals, supporting a cornice.

The bureau developed during the Empire period was nothing but a chest of drawers with a mirror on top held by uprights at either side. The top



A CONVEX MIRROR

Set in a heavy and elaborately decorated frame of gilt, convex mirrors were often surmounted by an eagle, perhaps crushing a serpent in its beak. Although similar mirrors were to be found in England, patriotic householders of the young Republic liked to think that the eagle was crushing the enemies of the nation.

drawer had a drop front so it could be used as a writing desk, hence the name *bureau*, which is French for desk. Beds were graceful four-posters with tall tapering posts and delicately carved or fluted testers, sometimes painted in floral or musical designs, or, again, covered with drapery. Characteristically Empire was the gondola or sleigh bed whose head and foot boards were rolled outward at the top like the chair back of the same period. Elaborate mirrors in all shapes and sizes became popular. Many had frames that were architectural in form, with pilasters at the side supporting a molded entablature, with the upper panel of glass painted with a landscape, a historical scene or some symbolical motif.

About the middle of the century householders began to find bare white-washed walls unattractive and began to import French, English, and Chinese hangings, gay with birds, hunting scenes, views of cities, and classical ruins. In some houses, stenciled designs covered the walls. By 1787 small factories had come into existence for making inexpensive wallpaper on which the pattern was stamped by hand with wooden blocks. They often depicted patriotic scenes. But for the next fifty years people of fashion preferred imported paper.

The sampler, which had begun as an economical substitute for pattern books and developed into a primer for the young, became more sophisticated and elaborate. Crewel work, inspired by the painted cottons imported into England from India, was taken up, and Americans copied the fantastic and gorgeous birds, trees, and flowers, adding a nuance of their own. Blue and white work was popular possibly because of the blue and white Canton ware brought in through the China trade, or because indigo was the favorite dye. From 1740 on, there were schools of needlework in Boston and elsewhere, and toward the end of the century a vogue came in for embroidered pictures often worked in silk floss on a background of satin, with parts of the picture painted in.

While pianos had been made as early as 1789 by Charles Albrecht in Philadelphia, it was not until the early part of the nineteenth century that they became at all popular. John Jacob Astor sold pianos and flutes until his trade in furs reached such proportions as to take all his time.

## CLOTHES

The fathers of the American nation dressed carefully and in the height of fashion. Largely from patriotic motives, again, preference was given to French styles rather than English, just as in the case of architecture and furniture, and to this day France has not lost the influence on American fashions which she acquired at that time. Also from patriotic motives, namely, to encourage home industries, the use of silk and satin fell into disfavor and it became fashionable to wear simpler materials made in New England, such as kerseymere, a knit goods similar to jersey.

"A pair of satin breeches," declared a chronicler, "would attract the observation of every beholder almost as much as a maroon colored coat."

The morning dress of a man of fashion in the early days of the Republic might consist of a blue cutaway coat trimmed with black buttons, a striped waistcoat, and, in place of the jabot, a folded white linen stock tied in a bow under the chin; and buff-colored breeches buttoned below the knee, with which were worn high Hessian boots, reaching to the knee, with buff kid turned-down tops. The hat was a high-crowned beaver and the hair was worn in a queue tied with a black ribbon. Powdering the hair went out a few years after the turn of the century.

Pantaloon, close fitting trousers from Paris, had reached full length by

1800. They were sometimes worn during the day instead of knee breeches. Later it became permissible to wear them in the evening.

The evening dress of a gentleman of 1790 might well consist of a double-breasted coat with large gilt buttons; the coat collar being worn low enough to show a part of the neck cloth; white waistcoat worn both double and



FRONTIERSMAN

Frontiersmen preferred clothes of buckskin, and with good reason. They were light and warm, and the material could be readily bought from the Indians. Branches and thorns could do them little harm; they outwore even homespun. As buckskin was not dyed like cotton or other cloth, it would blend with the natural colors of the forest and thus not betray the wearer.

single, showing the drapery to much advantage; light-colored breeches coming fairly high up on the hips and ending two or three inches below the knee. White-stockinged feet would be thrust into shoes with buckles.

In order to demonstrate his lack of sympathy with aristocratic ideas, Jefferson for his inauguration in 1801 attired himself in an old "blue coat, a thick drab-colored waistcoat with a red under-waistcoat lapped over it, green velvet breeches with pearly buttons, yarn stockings, and slippers."

The "ragged regimentals" of Washington's troops during the Revolution aroused the derision of the smart British regulars. The first uniform recommended by General Washington was one which most colonists either had al-

ready or could very easily procure : homespun coats cut like hunting shirts and long homespun trousers with gaiter legs. Officers' ranks were at first indicated by different colored ribbons over the shoulder beneath the coat. Colonels, captains, and subalterns sported cockades of red, yellow, and green respec-



A POLONAISE

This belle of the early days of the Republic is wearing a fashionable *Polonaise*. Marking the disappearance of the hoop skirt and *paniers*, and relatively more simple, it was a short, ruffled skirt without hoops. The over-dress curved away in front, to be caught up in a bustle-like back, or in three immense festoons.

tively; a captain, an epaulet on his right shoulder; a lieutenant, one on his left. In 1779 a regular uniform was prescribed for line regiments in which the different colonies were indicated by facings of different colors.

From 1776 on, captains and lieutenants in the Navy appeared in blue coats with red lapels; a stand-up collar; yellow buttons; red waistcoat and blue breeches. Marine officers wore a green coat faced with white, with skirts turned back; silver epaulet on the right shoulder; a white waistcoat; breeches edged with green; and black garters and gaiters.

About 1795 a change took place in the fashionable dress of women. Instead

of the rich, heavy brocades and damasks, soft clinging muslin, gauze, or similar materials were used. Skirts were narrower and shorter, reaching only to the ankles. The bodice was very short and had a low neck. Sometimes a gauze or muslin handkerchief was draped over the shoulders. These gowns were either sleeveless or had short puff sleeves, sometimes with long sleeves attached to the puffs.

When it was warm outdoors women wore long scarves reaching to the feet, and long cloaks when it was cold. Slippers, for use indoors and out, were light and had no heels.

The hair was dressed in loose curls, either hanging about the shoulders or caught up with ribbons or combs. Sometimes it was lightly powdered. Hats were very large and were tied under the chin; turbans were popular. Older women wore caps.

In the early nineteenth century under the influence of the Classic Revival there was for a time a vogue for scanty attire of sheer, clinging materials. One humorist remarked that "in one year eighteen ladies caught fire and eighteen thousand caught cold," and from Washington Mrs. Samuel Harrison Smith wrote in 1801: "There was a lady here who afforded us great amusement. I titled her 'Madam Eve' and called her dress the 'fig leaf.'"

The Empire costume which came in about 1804 and lasted till 1814 (and which has enjoyed many revivals), consisted of a long narrow simple dress, cut low, with an exaggeratedly high waistline and narrow sleeves. After this period dresses became fuller and lace was used in profusion. Ladies of fifty decked themselves out with lace, ribbons, and wreaths of roses and put gold leaves in their false hair. In 1825 the leg-o'-mutton sleeve came in, destined within a few years to increase to a ridiculous size.

In the early days of the Republic girls dressed as their mothers did, in high-waisted short-sleeved dresses with narrow skirts reaching to the ankle. About 1818 the pantalette, also a French importation, came into fashion. Those for every day use were of calico, but for dress occasions they were elaborately trimmed with lace and embroidery, or deep starched ruffles. The mode lasted for forty years.

Boys wore high waisted suits of kerseymere or some other practical cloth, with white cambric ruffles at the neck and sometimes at the wrists and ankles.

In response to a demand for jewelry, guineas, doubloons, and Spanish dollars were converted into rings, seals, watch chains and pins. About the turn of the century the manufacture of jewelry was begun and the canny New Englanders soon developed stamped "filled" work—i.e., gold on the outside and pewter or lead on the inside—which could easily be made in quantities. It only remained for the ubiquitous Yankee peddler to distribute it over the face of the land, and by the end of the first quarter of the nineteenth century the demand far exceeded the supply.



## FOOD

Food was distinguished by its abundance rather than by its quality. Corn, most often in the form of corn bread, or "rye and Injun," which was bread made of mixed corn and rye, was still the chief staple of American diet. Except among the well-to-do, salt pork was the staple meat; in many parts of the country it was served three times a day. In those days there was no way of preserving meat except by salting or smoking. Hogs were plentiful and cost nothing to care for as they could be allowed to run loose and pick up their own food. A hog slaughtered by the farmer could be salted and eaten by the family before it spoiled.

There was always an abundance of potatoes, squash, turnips and beans, but some of the vegetables familiar today, such as cauliflower, rhubarb, and eggplant, were unknown. The tomato was grown for ornamental purposes only, as it was thought to be poisonous. It was called the "love apple." Fruit was abundant but inferior in quality to that of today. Pears, peaches, plums, and cherries were dried for winter consumption; apples made into cider. Strawberries and raspberries grew wild. Exotic fruits like oranges and bananas were found only on the tables of the wealthy.

In New England, especially among the common people, the three daily meals were very much alike. At each of them pea and bean porridge, salt pork, corn meal with milk, and perhaps dried or salted fish appeared practically every day in the year. Of course, the menu of your New England merchant or banker showed a greater variety of tasty dishes.

The Southern gentleman, with numerous slaves to grow, cook, and serve his food, paid more attention to what appeared on his table, which groaned under a burden of various kinds of soups, turkey, ham, chicken, bacon, beef, mutton, sweet potatoes prepared in two or three different ways; hot bread and hot biscuits, muffins and corn bread; jellies, relishes, and pastries; wines and liquors.

North or South, there were still few stoves; food was usually prepared in the open fireplace.

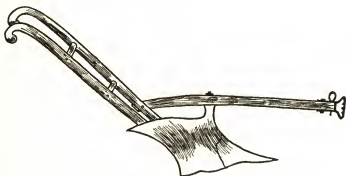
## AGRICULTURE

The machine transformed methods of transportation prevalent since the dawn of history. It was to do no less in the domain of agriculture. For two thousand years the soil had been tilled by the same primitive means. The tools of the American farmer were little better than those of the ancient Egyptians. The ground was broken up with a heavy, awkward wooden plow and the clods broken by a wooden harrow. The farmer scattered his seed by hand and cut the ripened grain with a sickle. The harvested grain was threshed either by hand or with a wooden flail, or trodden out by oxen and horses. Threshed, it was tossed into the air so that the breezes might carry the chaff away.

As late as 1794 plows were made as follows: "A winding tree was cut

down, and a moldboard hewed from it. . . . Onto this . . . were nailed the blade of an old hoe, or thin scraps of iron, or worn-out horseshoes. The beam was usually a straight stick, the handles . . . split from the crooked trunk of a tree, or as often cut from its branches. . . . The beam was set at any pitch fancy might dictate."

No one will be surprised to learn that Thomas Jefferson had already prescribed ways of improving the plow. However, scant attention was paid to his experiments, and a patent taken out in 1797 by one Charles Newbold for a plow with a cast-iron moldboard aroused definite antagonism, the farmers believing that cast iron "poisoned the land." Eventually, in 1819 Jethro Wood received a patent for his plow with a moldboard and some other parts of cast iron, efficient enough to overcome all prejudices. Its chief advantage was that worn-out parts could be replaced. This meant that from now on plows could be turned out in factories, instead of being laboriously made by the plowwright or the blacksmith.



JETHRO WOOD'S PLOW

The change from the old "bull plow" to the plow of cast iron marked the beginning of a revolution in agriculture, which for millenniums had remained unchanged. This is Jethro Wood's improved cast-iron plow, with replaceable parts. Patented in 1819, its use was widespread by 1825.

Still no serious attempt was made to preserve the soil by crop rotation or fertilization. Neither was there any real effort to improve the breed of livestock, until the demands of an increasing number of textile manufacturers for better wool led to the introduction of some merino rams. The first of these, to the number of three, were smuggled over in 1793 by a young Bostonian traveling in Spain. In 1802 the American Minister to Spain sent over a hundred more—openly this time—which were driven across Portugal by Spanish shepherds, under military guard. Next Robert Livingston, American Minister to Paris, sent some merinos from the French national sheep fold in the forest of Rambouillet, while in 1809 the American Consul at Lisbon sent fourteen hundred from the Crown flocks of the Escorial in Spain. But this impulse

toward stock improvement is more of an indication of the growth of textile manufacturing than of progress in agriculture.

A better indication of such progress was the gradual formation of a number of agricultural societies. One of them organized in Philadelphia in 1785 included George Washington and Benjamin Franklin among its members. In this way was disseminated among gentleman farmers the knowledge Washington had gained through a study of improved methods in England. In 1810 *The Agricultural Museum*, the first American farming journal, was started, to be shortly followed by others.

Fairs had been held in South Carolina and Virginia early in the eighteenth century—and somewhat later in Maryland—but nearly a century had to pass before the idea spread to most parts of the country, chiefly as the result of years of effort on the part of such men as Elkanah Watson.

In the South during the early years of the Republic, cotton became the leading crop. Not many years passed before it could be truthfully said that "Cotton was King." Some historians aver that small patches had been grown by the first settlers of Jamestown, under John Smith's direction, and that throughout the colonial era, small crops had been cultivated for spinning and weaving in the home, although wool and flax were chiefly used for this purpose. But England had discouraged any attempts to develop cotton factories in the colonies on a larger scale because of the threat to her own textile industry, then stimulated by mechanical improvements. After the war it was only natural that the planters of the new state should turn to cotton growing to satisfy the demand for goods manufactured at home.

Practically all cotton grown in the South before 1786 was short staple cotton, called upland cotton because it grew best on high ground. But in that year some Tories who had retired to the Bahamas sent their friends in the South some seeds of another variety, the long staple cotton, valued because of its long silky fibers which were used in making lace and goods of a fine quality. After some futile attempts the planters soon learned that it would grow only on the lowlands and small islands along the shore, hence the name: sea island cotton. A small quantity sent to London in 1790 was much appreciated. Cotton clothing was fashionable at the time, and British manufacturers would have taken plenty of American cotton had it been possible for planters to clean it properly. Sometimes the seeds imbedded in the lint were picked out by hand, a tedious process by which a man could not clean more than a pound a day. Some planters used a primitive Asiatic instrument consisting of a pair of grooved rollers almost touching each other on two upright posts. When the cotton was run between the rollers, the seeds were pressed out and dropped. After this process, a bow was used to beat out the dust, and the expression "bowed cotton" still survives.

In 1792 a young New Englander named Eli Whitney who had just graduated from Yale set out for Georgia where he expected to take a job as a

private tutor. Stopping for a few days with friends in Savannah, he heard so much talk about the need for a machine to take the seeds out of cotton, that he decided to have a try at inventing one. By the spring of 1793 he had perfected a model in which the cotton was fed through a wire grating to a cylinder studded with wire teeth, which, as the cylinder turned, passed through the grating, grasping the cotton and pulling the lint through, while the seeds fell down on the opposite side. In order to prevent cotton clogging the teeth, he added another roller studded with stiff hog bristles revolving in the opposite direction.

Whitney lived to regret that he had not gone on and obtained the teaching job in Georgia. His patent rights were disregarded and he made little money out of an invention which proved the most epoch-making of the age. In 1793, when he invented the gin, less than half a million pounds of cotton left American shores, while only seven years later sixteen million pounds were shipped to England, and within another five years half the cotton imported into England came from the United States.

Meanwhile the cultivation of tobacco dropped from 83,000 hogsheads exported in 1806 to only 3,000 in 1814, although this was partly due to the British blockade during the War of 1812, and the cultivation of rice dwindled.

The cotton planting season was any time from the first of February to May. To prepare the ground, old stalks standing from the former crop were broken down and the ground plowed and plowed again until the soil was finely powdered. Next the ridges were opened with a "scooter"—a bent, pointed bar of iron—to receive the seed. A Negro woman carrying a supply of seeds in her apron walked along the furrows throwing them into the open ridges. The newly planted seed was then covered and the furrows weeded. When the plants were four inches high they were carefully thinned out with a hoe, and the furrows between the rows broken up with a small plow. The laborious process of thinning was called "chopping" cotton and it was repeated every few days for three weeks, until only the hardiest plants were left standing, about a foot apart.

After the first of August the picking season began. Whole families of slaves, men, women, and pickaninnies, turned out into the fields, and the usual working hours—from sunrise to sunset—were extended until it was too dark to see. They worked in gangs under a white overseer. In one day a man could pick about fifty pounds.

After picking, the cotton was carried to the gin house in baskets and put through the gin, whereupon it was thrown into gunny sacks and stamped down by the slaves. Not until the middle of the nineteenth century were presses used on the plantation to pack the cotton into bales.

## TRANSPORTATION

Where there had been before the Revolution a collection of scattered colonies, often jealous of each other, there was now a nation which called itself



A CONCORD COACH

Because the English coaches were meant for good, smooth roads, of which there were very few in the New World, the resourceful Yankee designed the Concord or Thoroughbrace coach—Concord because it was made by the Abbott-Downing Company in Concord, New Hampshire, and Thoroughbrace because the springs gave way to leather straps of varying thickness, which were called “thoroughbraces.” The coach was so heavy that at least four horses, and sometimes as many as eight, were required to pull it.

the "United States." But that ideal of unity had to be translated into reality. People must be brought closer together to exchange ideas and to exchange commodities. The country's resources must be developed.

To a certain extent a conscious effort was made to bring about the necessary cohesion by the building of roads, turnpikes, and bridges, and the first canals. But it was to be helped on also by the first incursion of the machine into the domain of transportation: the steamboat.

At the birth of the Republic, transportation had not emerged from the primitive condition it had been in during the rise of the colonies. Shanks' mare was still the favored mode of locomotion. A cabinetmaker living a dozen miles outside of Providence, who could not afford a wagon, used to carry his tables and chairs thither balanced on the ends of a stout fence rail. Legend has it that an eighty-year-old Portsmouth baker would walk sixty-six miles in a day to buy his flour, have it shipped home, and walk back the next day. Less energetic citizens remained in one place most of the time, or rode, although at the turn of the century wagons began to take the place of riding among farmers. They were little more than square boxes on wheels, without springs.

Carriages, used by the gentry, did not change much in type; there were more of them, but they were still a luxury. Stagecoaches had improved little, although here and there they became lighter and more elegant. A coach at the turn of the century had "dished wheels" whose spokes formed a shallow cone which could more easily throw off the mud. The front wheels were cut under. Seat backs were low and there was no protection from either sun or rain.

One stagecoach employed to carry travelers to the West was described as a "great, ugly, incommodious vehicle, but with an eye to service, without thought of elegance. Wheels of oak with spokes like a Polynesian war club, thickly tied and with hub like a hogshead. Upon axle-trees was a common cart body with seats laid across. No tongue to coach, but a pair of shafts, and one horse alone did the duty, or a tandem. Hoop-poles were bent over from side to side and a rough board behind, fastened to coach by a pair of great leathern straps carried the baggage of passengers." Another type of stagecoach had a light roof supported by slender uprights, with leather curtains hanging down the sides and back. There was no place for luggage. The entrance was in front over the driver's bench and passengers whose seats were in back had to crawl across the other benches to reach their places.

From 1815 to 1825 the "football" coach was frequently in evidence. Its football—or melon-shaped body, suggesting the pumpkin coach used by Cinderella, was built of wood and sole leather and swung on a number of thoroughbraces or thick leather straps, riveted together. It carried either six or nine passengers inside, and was drawn by four horses.

In the vicinity of the cities there were a few comparatively good roads made of logs laid together side by side, with two or three inches of dirt on top.

These "corduroy" roads were fairly passable when new, but when rain had washed away the dirt and caused the logs to sink several inches here and there, under the lumbering stagecoach wheels, the unfortunate passenger was badly shaken. Away from populated localities, the few roads were a river of mud in winter and a choking cloud of dust in summer, with deep ruts. Pioneers made their way over what had once been narrow Indian trails, widened by the increasing flow of pack trains and wagons. But they, at least, expected discomfort.

The building of turnpikes and bridges by private chartered corporations was the first important step forward. These had a surface layer of crushed stone and gravel mixed with mud, and were a great improvement over the other roads. A toll was charged to pay for construction and repair. A magnificent highway—the Cumberland Road, or National Pike—was started in 1806 by the federal government. The first section ran from Cumberland, Maryland, to Wheeling, Ohio, a distance of a hundred and thirty miles. By 1838 it had pushed its way across the country to Vandalia, Illinois, and there the project was dropped because of opposition to government ownership, and the road was turned over to the states through which it ran.

As yet, no bridges spanned the larger rivers and those crossing the smaller ones were precarious. Stagecoaches and wagons forded their way or were ferried across on crude rafts or boats. Toward the end of the eighteenth century a few rivers were traversed by "floating bridges" consisting of large tree trunks placed side by side and chained together. As the carriage went across, sections of the bridge would sink a few inches below the surface. In New England covered bridges came into existence. Long ones were supported in midstream by a wooden trestle or stone pier. They had latticework sides, held in place with hand-wrought wooden pegs, and were boarded over to protect the bridge itself—not the traveler—from the snow. The floorboards were left unnailed to reduce the strain and when a wagon passed over the bridge they rumbled and clattered. Many picturesque old covered bridges are still in use.

The first regular stage line between Boston and New York took more than ten days to make the journey. When in 1790 a regular mail system was established between the two cities, great pride was taken in the fact that the mail coach made the trip in only five days. And Mercereau's stage, which took three days to cover the distance between New York and Philadelphia in later years, was called "The Flying Machine." Taverns for the stop-over were primitive, sometimes as many as a dozen persons—not necessarily acquaintances—being obliged to sleep in one room.

Of a journey in Maryland, Isaac Weld writes: "The driver frequently had to call to the passengers in the stage . . . to prevent it from oversetting in the deep ruts with which the road abounds: 'Now, gentlemen, to the left'; upon which the passengers all stretched their bodies halfway out of the car-

riage to balance it on that side; 'Now, gentlemen, to the right,' and so on." And Josiah Quincy, President of Harvard College, traveling from Philadelphia to Washington as late as 1826, described the stage as a "vast, illimitable wagon, with seats without backs, capable of holding some sixteen passengers with decent comfort, and actually encumbered with some dozen more." He was more impressed with the comparative comfort of a trip from Boston to New York, which he describes in these terms:

"I set out from Boston in the line of stages of an enterprising Yankee, Pease by name; and considered a method of transportation of wonderful expedition. The journey to New York took up a week. The carriages were old and shackling, and much of the harness of ropes. We reached our resting place for the night, if no accident intervened, at 10 o'clock, and, after a frugal supper, went to bed with a notice that we should be called at three which generally proved to be half past two, and then, whether it snowed or rained, the traveler must rise and make ready, by the help of a horn lantern and a farthing candle, and proceed on his way over bad roads, sometimes getting out to help the coachman lift the coach out of a quagmire or rut, and arrived in New York after a week's hard travelling, *wondering at the ease, as well as the expedition, with which our journey was effected.*"

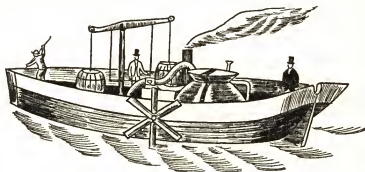
A few small canals such as the Merrimac, the Middlesex, and that connecting the Mohawk River with the Hudson having proved successful, years of controversy ensued regarding the possibility of a great canal which would provide an unobstructed water course from the Hudson River to the Great Lakes. Many years were required to convince the people of the United States that the undertaking could be carried out and that it would benefit the entire nation. Finally, in 1817, the work was begun and completed seven years later. The Great Erie Canal, three hundred and sixty miles long, contained eighty-three locks. It reduced the price of freight between New York and Buffalo from one hundred dollars to five dollars a ton, and the time required in transit from twenty days to six. As a result, the nation entered upon an era of canal building. People put their savings into canal projects, little realizing that a competing method of transportation was in the offing.

Here and there a few imaginative persons of mechanical bent had been considering the application of steam to transportation on land and sea, and getting themselves called cranks for their pains. A poor watchmaker who had learned his trade in the shops of the Cheney brothers at East Hartford, Connecticut, makers of tall clocks, exhibited in 1785 a small brass model of a boat equipped with two rows of paddles on endless chains on either side, to be driven by steam. After many fruitless efforts John Fitch found a Philadelphia watchmaker who was willing to help him financially, and together they



built a small skiff which they tried on the Delaware on August 22, 1787. This was the first steamboat ever operated in the United States. Two years of persistent endeavor followed, at the end of which he was able to place a greatly improved and enlarged model in regular service on the Delaware. As an invention his steamboat was a success, but it failed to make money and people still laughed at him. In despair he committed suicide.

In 1804 the good folk of Philadelphia were treated to a strange sight. Oliver Evans had constructed a craft to which he had given the disturbing



A VERY EARLY STEAMBOAT

"I know of nothing so perplexing and vexatious to a man of feelings as a turbulent Wife and Steamboat building," declared the ill-starred John Fitch. This, one of his numerous early attempts—in shipbuilding, not in matrimony!—probably never did more than cross Collect Pond in New York. And a companion vessel which he built to secure a monopoly on all Virginia waters was torn from its moorings by a gale and smashed. It was left to Fulton to carry out the idea successfully.

name of *Orukter Amphibolis*. It was a scow equipped with a steam engine for raising mud from the river bottom; in other words, a steam dredge. In order to demonstrate to the public the extraordinary potentialities of steam engines, he put wheels under it and transported it under its own power to the Schuylkill River, where, by means of a paddle wheel attached to the stern, he brought it down the Schuylkill to the Delaware and so to Philadelphia. As a result of its brief trip on land, the *Orukter Amphibolis* gained the distinction of being the first road locomotive in America.

But to Robert Fulton goes the honor of building the first convincingly successful steamboat. Resembling in lines a two-masted schooner, it was 130 feet long, with a beam of 18 feet and a draft of 8, with a register of one hundred and sixty tons burden. Its power plant, built in England by Watt and Boulton, was a steam engine having a 24-inch cylinder with a 4-foot stroke. The craft was equipped with uncovered paddle wheels 15 feet in diameter. It was named the *Clermont*.

On the morning of August 4, 1807, crowds of people lining the banks of the

Hudson, who had come to jeer at what they termed "Fulton's Folly," rubbed their eyes when the *Clermont*, breathing forth clouds of black smoke mixed with sparks, disappeared up the river at the terrifying speed of five miles an hour. The following spring the ship, equipped with cabins containing upper and lower berths, entered regular service on the Hudson. Fulton's next feat was the construction of ferry boats propelled by teams of horses who went round and round in the hold, turning a pole which was geared to the paddle



THE WALK-IN-THE-WATER

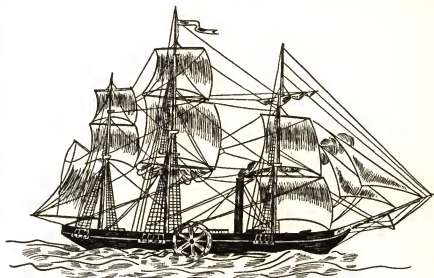
Forerunner of a mighty fleet, the first steamboat on the Great Lakes was the side-wheeler *Walk-in-the-Water*, 135 feet long, and rigged as a brig. Made in New York, the engine was sailed up to Albany, and then hauled by horse team to Buffalo, taking nearly a month for its overland journey.

wheels. He also devised pontoon or floating bridge docks which rose and fell with the tide, making it possible for vehicles to drive on and off ships at all times.

His success ushered in an era of steamboat building. In 1811, under his direction, a stern-wheeler called the *New Orleans* was built at Pittsburgh, the first steamboat to navigate an inland river. In 1818 the *Walk-in-the-Water* was built on Lake Erie. Owing to the strength of the current near Buffalo it usually had to be towed a considerable distance after leaving port, before being entrusted to the tender mercies of its own power plant.

The following year, as sailors like to tell, a bold mariner named Moses Rogers sailed, without passengers or freight, since no one had been found willing to risk either life or cargo, on a three-hundred-and-fifty-ton side-wheeler named the *Savannah*, for Liverpool, England, out of Savannah, Georgia. The ship was equipped with removable folding paddle wheels which could be taken aboard and lashed to the deck should the going become rough.

Twenty-nine days after his departure coast guards of the Cape Clear Station in Ireland reported a strange vessel that was apparently on fire, since it was belching forth clouds of black smoke and sparks. It was the *Savannah*, which had successfully negotiated the crossing. The engines had been used only six times for a total of eighty hours, but all the coal Captain Rogers had brought along was used up, and he was durned if he'd pay the high prices demanded in Europe for fuel. So he lashed the paddles to the deck, hoisted sail, and,



THE SAVANNAH

In 1819 the *Savannah*, a sailing vessel in which a steam engine had been installed, crossed the Atlantic and caused a sensation in Europe as the "first steamboat" to do so. Less impressed, however, its owners removed the engine, and it was not until after the middle of the century that the era of steam transportation on the ocean truly began.

still alone and quite unembarrassed by cargo, pointed the *Savannah's* nose at the distant shores of his native land. The voyage of the *Savannah* only served to convince people that steamboats were impracticable for ocean travel. There wasn't a ship big enough in those days to carry an adequate supply of fuel. Nearly half a century was to elapse before another American ship would cross the Atlantic by steam.

During that time, however, the American sailing ship came to predominate on the seven seas. The foundation for the pre-eminence of American shipping in the early nineteenth century was laid in the years that followed the Revolution, when France and England were busy fighting each other. In 1784 the *Empress of China*, owned by Robert Morris and other gentlemen of Philadelphia, sailed to Canton and back in fourteen months and twenty-

four days, the first American ship to arrive in China under the flag of the new nation. In the years 1787-1790 Captain Robert Gray of Boston piloted the *Columbia* around the world, discovering en route the river on the West Coast which now bears the same name, thereby establishing our claim to the Oregon territory. By 1803 a substantial percentage of the world's cargoes was carried in American bottoms.

As these ships were designed for long voyages, speed was sacrificed to capacity. And although the schooner rig was the standard, really fast schooners did not make their appearance until the War of 1812, with its heavy demand for privateers.

It was in this war, too, that the little American Navy won its reputation and salted away some of its finest traditions. To be sure it consisted of no more than seven frigates of varying sizes, a couple of corvettes, and a handful of brigs. But unlike American soldiers, who were amateurs, American sailors were professionals, trained in the best school in the world, and ship for ship they were always more than a match for the British.

Included in this miniature fleet was not a single ship-of-the-line, or liner, as ships were called which carried from 70 to 140 guns on two or more completely armed decks. But its frigates, built of newly cut wood and planked with yellow pine, were lighter and faster than the corresponding British "walls of oak" built of wood that had lain for years under water to season, according to British custom. The frigate carried from 24 to 44 guns on a single flush deck and on forecastle and quarterdeck, which were connected by gangways along the side. They were round, full ships, with sides that "tumbled home"—i.e., sloped inward as they rose, which was supposed to make them roll more easily—and at the stern they were broad and square.

The best known frigate in American history is the *Constitution*, affectionately known as "Old Ironsides." Of twenty-two hundred tons burden, her overall length was 204 feet, beam 43.6 feet, draught 23 feet aft. Her original armament came from England and consisted of 28 long twenty-four-pounders on the gun deck and 10 long twelve-pounders on the quarter deck. When she destroyed the British frigate *Java* in the War of 1812 she threw seven hundred and four pounds of iron in a single broadside.

Toward the end of the century there was an increasing demand for sperm oil for candles by persons of wealth and fashion, especially in France, and by the American government for its growing chain of lighthouses. The whalemens of New England, who had been languishing in the doldrums, were impelled to fresh efforts. In search of new fields the two-hundred-and-forty ton Nantucket whaler, the *Beaver*, Paul Worth, Master, rounded the Horn in 1791. By the turn of the century there was hardly a place along the Western coast of South America where the cachalot could be safe from Yankee whalemens. Eventually the whalers pushed as far north as Alaskan waters, but by that time the whalers of other nations began to encroach on their domain.

## INDUSTRY

The substitution of the machine for the human hand, eye, and brain was a revolution affecting not only the course of a few score, a few hundred, or a few thousand years. It was the turning point of civilization, and so important that it is impossible yet to evaluate its significance. This tremendous change



GLOUCESTER SCHOONER

Here is the descendant of the early Gloucester schooners which for centuries have been fishing the Grand Banks off Nova Scotia for cod, hake, haddock, and halibut. She usually carried from six to twelve dories stowed in nests on the deck, used on the fishing grounds to set the lines.

took place in America within the first fifty years of the Republic. In each department of everyday things its influence was far-reaching, but in none so significant as in the field of industry. When the colonists took their squirrel guns down from the wall and left their homes to drive out the British, practically everything they had was homemade. By 1840 many things were produced in factories, and from a nation predominantly agricultural and maritime, the United States was beginning to change into an industrial one.

And the change was exciting and dramatic. The British had been defeated on land and sea; in a military and political sense the Revolution was won. Yet it wasn't over. It was now to be fought and won over again on the economic and industrial front. The rise of the machine had given England a

tremendous advantage which she was loath to share with her rebellious offspring. The struggle that followed has been likened to a covert war, full of intrigues, espionage, plots and counter-plots. Machinery models were smuggled out of England in pieces, labeled "cards for cattle" and "teeth for horse-rakes." They were sent to France and reshipped, only to be discovered in transit. There were men able to memorize every detail of a loom or a jenny and then flee to America in disguise, tempted by the bounties offered by enterprising manufacturers. England could not keep the benefits of the industrial revolution to herself. Little by little the United States won this as it had won the previous struggle.

In 1775 a Philadelphia Quaker, Samuel Wetherill, had established "The United States Company for Promoting Manufactures," which, using an imitation of Hargreaves' spinning jenny, the first of its kind in America, gave employment to four hundred female paupers and produced a quantity of woolen and cotton cloth. In 1788 the Hartford Woolen Manufactory was established under the auspices of Oliver Wolcott, signer of the Declaration of Independence, and Peter Colt, whose nephew was to develop the Colt revolver. The yarn was spun in country households, and the cloth made by primitive machinery which was operated in the early days by a team of horses and later by water power. The first textile factory in the land to use water power, it was permitted to furnish the suit Washington wore at his inauguration. Also in 1788 a fairly larger manufactory was set up at Beverly, Massachusetts, which made various textiles of good quality.

The secret most carefully guarded by the English at that time was the design of Arkwright's cotton spinning machinery. To take plans or patterns of this machine out of the country was strictly forbidden. But a rumor was current among the mill hands that a bounty of a hundred pounds was being offered in Philadelphia for the construction of a similar machine. This looked like a lot of money to a youth named Samuel Slater, who, although only twenty, had a wife to support. For several years, as an apprentice in Arkwright's factory, he studied the machines, memorizing every detail, and then one day slipped out of England. His enterprise was immediately rewarded by the offer of a partnership in a textile manufacturing firm at Pawtucket, Rhode Island. Here, behind closed doors, he chalked designs of the machines from memory, and the man who made them from his designs was put under heavy bond to keep the operation a secret. By the end of 1790 the machines were running. In addition to ordinary cotton cloth they turned out sheetings, checks, ginghams, and shirtings, which had never been fabricated in America before.

Four years later landed one Arthur Scholfield, who had the type of mind that permitted him to construct an entire carding machine from memory. A successful woolen mill was built at Newburyport which produced broadcloth

of such good quality that it could be taken for English. It was one of Scholfield's mills which produced the black broadcloth worn by Madison at his inauguration.

And whose name should crop up in the history of textile-making but that of the ingenious Oliver Evans, the man whose fertile brain had conceived the *Orukter Amphibolis*? In 1812 he invented a carding machine, a mechanical



BENNINGTON POTTERY

Prior to the Revolution, high-quality native crockery was rare in the American home. But the hillsides of Vermont contained materials such as silica and kaolin from which pottery could be made that was superior in some respects to that of the English, and an important pottery was established in Old Bennington in the early years of the nineteenth century. As it grew in importance toward the '50's, it turned out vases, candlesticks, "Tobies," coachmen, and various animals, chiefly in flint-enameled glazes, which were marketed through the countryside by silk-hatted salesmen driving four-horse wagons.

brush made by driving wire staples into a leather sheet, which, after disentangling all snarls and removing all foreign matter, laid in fibers in parallel lines, an operation analogous to the one a small boy goes through when he combs his hair.

In 1814 Francis Cabot Lowell of Boston built a textile factory at what is now Waltham, Massachusetts, cleverly adapting what he had seen in the course of travels in England and Scotland. In spite of British "dumping"—selling goods at a loss in order to "stifle in the cradle these rising manufactures in the United States"—his factory prospered, and a second was built on the Merrimac, using the river for power. The site was named Lowell.

Along with its manufacture, the printing of cotton and other textiles developed. Just before the Revolution Benjamin Franklin invited an English calico printer to America. He came, and established his print works almost under the shadow of the elm in which William Penn had signed his treaty

with the Indians. In the Revolution he fought with the American forces, was taken prisoner at the battle of Monmouth, escaped and survived to establish the trade of calico printing on a firm footing. At the request of Madam Washington he made a series of handkerchiefs showing the Father of His Country on horseback, in full uniform.

The reeling, spinning and even weaving of silk was still carried on in the home. The first silk mill was built in Connecticut in 1810, and though its proportions were hardly impressive, since it was only twelve feet square, it managed to survive.

In 1824 the Jacquard loom was introduced which made it possible to weave coverlets of cotton and wool full width instead of in strips. From this time on, coverlets were made in elaborate patterns ornamented with eagles, intricate scrolls, birds, flowers, and inscriptions of a patriotic nature.

Once there was a Pennsylvania farmer who had three daughters. To the first, who married in 1780, he gave as dowry the best of the family wool and flax, to make into clothes, and homemade cotton sheets. To the second, marrying 1782, he gave a calico gown and a calimanco petticoat, pewter teaspoons, a teakettle, and stone teacups. But the third, who married in 1785, received a silk gown, silk for a cloak, a mirror, and a china tea set. The moral is that the textile industry was making rapid strides.

The advent of the power loom killed one of the most picturesque of early American crafts, the manufacture of "coach lace"—the woven bands with which coach interiors were decorated. In Europe these carried the family coat of arms, the sacerdotal seal, or civic insignia, depending on the uses to which the coach was put. In America they were decorated with floral, scroll, or geometric motives. William Marsh of Quincy, Massachusetts, made coach lace for forty years. In addition to the conventional black, he had a fondness for gay colors and dipped his yarns in kettles full of bright scarlet, green, and blue dyes.

One night in 1782, legend has it, a plumber in Bristol woke up and scratched his head after a peculiar dream: he had been caught in a shower and the drops of rain had turned to lead as they fell. Next day he went up into a church tower and dropped melted lead into a bucket of water on the ground; the lead turned into shot. In 1807 a shot tower was built on the Schuylkill a hundred and seventy feet high, which its owner thought would be able to supply the whole United States, but the demand grew and shot towers sprouted in various localities. Only a short time after the plumber's fruitful nightmare other uses for lead came to the fore. Householders realized that the use of paint preserved wooden buildings from decay. But now an epidemic of painting broke out, and the houses, barns, and fences of the country bloomed like varicolored flowers.

Although an evaporation process had been used on a small scale in the early days of the colonies, until the end of the eighteenth century most salt was



made by boiling, but the salt makers of Cape Cod had noticed particles of salt on clam shells and this suggested the idea of making it by evaporation in the rays of the sun. After the Revolution a sailor constructed a vat in Barnstable County to which the sea water was conveyed by a pump taken from a stranded British man-of-war. Local people called it "John Sears' Folly," but it worked well enough to inspire the construction of similar works, which prospered until the development of extensive salt springs at the sites of the old Buffalo salt licks put them out of business. The commerce of salt from these springs at Syracuse, Salina, and other centers helped to pay a large part of the cost of building the Erie Canal.

Shortly after the turn of the century an enterprising young Frenchman trained in chemistry, Eleuthère Irenée Dupont, noticed that American powder fouled muskets and caused frequent explosions. He determined to produce a better article. The need for powder with which to fight the British on the coast and the Indians inland helped him to prosperity, and when he died in 1834 his establishment was the largest of its kind in the country. In recent years it has not shrunk to any noticeable extent.

One of the numerous activities in which Benjamin Franklin took an interest was the manufacture of paper; he helped to organize a number of mills devoted to this end. After the Revolution there was a shortage of material and extensive propaganda was carried on in the public prints to induce people to save rags. The Yankee peddler helped, too, by trading shiny new hardware for rags which he afterwards sold at a profit.

Since no pioneer in the rapidly developing Western territories considered himself dressed for the part until he had a leather shirt, breeches, and coat, there was a growing demand for leather and nearly every town had a tannery. Long open boxes sunk in the ground beside streams served as vats. The tanning solution was made by crushing oak and hemlock bark between stones and steeping it in water. The hides were soaked and scraped, and the hair loosened in a bath of lime and water. Then hides and bark were placed in the vats in layers and left there for six months.

In that section of New York City originally given over to tanning, leather is still manufactured. In olden days its odor rose to the four winds of heaven, but the children of the neighborhood had a wonderful time playing at circus in the tanbark.

Shoemaking continued to increase. In 1798 Lynn had two hundred little shops turning out from three to four hundred pairs of shoes a day; by 1811 production had grown to nearly a million pairs.

But the industry which deserves the place of honor as best symbolizing the change from handicraft to factory production was clockmaking, because it was the first to undergo this transformation. The change made the Connecticut valley the clock shop of America, not to say of the world, and provided

the ubiquitous Yankee trader with the most important article of his stock in trade.

Until the beginning of the nineteenth century ordinary people got along by guessing at the time with the help of the sun, or through the use of sun dials, hour glasses, and silver watches as big as turnips. People who could afford it had handmade brass movements, "wag-on-the-walls." Then a whole family of clockmakers trained in the old traditions produced the banjo clock, which was cheaper and simpler than its predecessor, the tall clock, which the Wilards also made. Simon, the head of the dynasty, made a clock for the University of Virginia according to the specifications of his friend Thomas Jefferson, and presented two of the best examples of his work to Harvard College, where they are still in use. Meanwhile a clockmaker who came over in the same Nantucket whaler which had brought the tea for the Boston Tea Party settled down in the Naugatuck Valley of Connecticut and started to make inexpensive clocks. One of his apprentices, Eli Terry, bought a mill and equipped himself to make five hundred clocks at a time. Neighbors who had laughed at his foolhardiness found it their turn to gape when ten wagons at a time would draw up and wait for loads of clocks to be sent South.

But in the late 1820's a still more important change occurred. A clockmaker named Chauncey Jerome, who had come to the trade by way of carpentry and clock-case making and so was not hemmed in by its traditions, was lying on his bed one night trying to think of a way out of his business difficulties, when the idea suddenly came to him of making stamped-brass clock parts instead of wooden ones. Thus was born the cheap one-day brass clock that was to be turned out by the thousands and sold every place an enterprising Yankee might see fit to poke his nose.

## LIFE IN THE COMMUNITY

By the Treaty of Paris, 1783, in which England acknowledged our independence, she ceded the land bounded on the east by the Atlantic Ocean, on the northeast by New Brunswick, on the north by Canada, on the south by the Spanish possessions of East and West Florida, and on the west by the Mississippi. This territory of a million square miles was occupied by a rapidly expanding population of three and a quarter million people. Most of it was still forest. Two thirds of the people lived within fifty miles of the Atlantic and the other third lived on small scattered clearings.

There were three principal cities. Philadelphia was the largest, as well as the richest and most fashionable. Here the houses were finer and some attention had been given to the arrangement and naming or numbering of the streets, which were better paved than in other cities.

There were, however, still no paved sidewalks. Carriage ways and footwalks were roughly made by covering the surface with a layer of small stones,





### A POLITICAL DISCUSSION

One of the best places to exchange ideas was the country tavern, but the process was not always carried on in an atmosphere of imperturbability. The men who struggled and bled to forge the United States of America often reverted to sectional interests and rivalries with the coming of peace, and Tories were sometimes made to feel uncomfortable. This picture by Howard Pyle appeared in *Harper's Magazine*.

and were seldom kept in good condition. Footwalks were marked off from carriage ways by a line of posts and a gutter.

There were only nine blocks, as such, in Boston, all the other houses being separated by ground or lanes. Everywhere were taverns with big stables attached. Watchmen cried the hours of the night and sounded their rattles when it was necessary to give the alarm. In New York one-story wooden cottages hobnobbed with pretentious brick houses. Bowling Green was still occupied by private homes. Broadway, the fashionable thoroughfare, was badly paved and full of holes.

City or country, there was no running water in the houses. It was pumped from a well or brought from the brook. No bathtubs existed. John Quincy Adams, when he was President, took a daily plunge in the Potomac from the foot of his garden. The bristle toothbrush did not appear until the beginning of the nineteenth century.

The New England farmer, though more tolerant than his Puritan ancestor, still frowned on pleasure and still considered it sinful to read novels, dance, or go to the theater, sing humorous songs, have his dinner cooked on Sunday, or celebrate Christmas. Women devoted what time could be spared from housework to spinning and weaving, the making of samplers and quilts. Men and boys sat about the fireplace winter nights making nails.

Life in the South was more gracious. Riding, racing, dancing, music, billiards, gambling, cock-fighting, barbecues, and visiting occupied the leisure of the planters and their families.

Education, even in New England, had made little progress. The usual schoolhouse in the North was a one-room frame or log building, presided over by a single teacher. All grades from the youngest in front to the eldest in back, sat on long wooden benches with rough desks in front of them. There were no maps or globes. Paper was expensive and its use was restricted. Lead pencils were expensive as well; lessons were written in ink made by mixing ink powder with water, with sharpened quills. The most commonly used textbook was Noah Webster's spelling book, published in 1783.

Although there were secondary schools, the Latin Grammar School, and the Academy, the first high school in the country was not started until 1821, and in 1815 no more than sixty-six young men were graduated from Harvard, sixty-nine from Yale, and forty from Princeton. The usual education given a woman was one designed to fit her for marriage and the approved place to which to send a young lady for instruction was the girls' boarding school. It is to be hoped that all were not as strict as the one attended by Oliver Wendell Holmes' aunt, of which he wrote:

"They braced my aunt against a board,  
To make her straight and tall;

They laced her up, they starved her down,  
To make her light and small;  
They pinched her feet, they singed her hair,  
They screwed it up with pins;—  
Oh never mortal suffered more  
In penance for her sins."

Horse racing flourished. In New England the famous breed of Narragansett pacers was developed, beginning with an Arab stallion imported from Andalusia, in Spain. They have been described as "probably the easiest, fleetest, most sure-footed and toughest saddlehorses ever known in this country, if not in this world." Trotting, which was to become so characteristic a feature of American racing, owed its rise to the fact that a thoroughbred English racing stallion, Messenger, imported into Philadelphia from England in 1788, showed an incurable disposition to trot. This was no doubt encouraged by the fact that, Pennsylvania having prohibited racing, he was trained for the road rather than for the track, but the fact remains that he passed it on to his descendants. The first public trotting race took place in 1818, two members of the Jockey Club having bet the rest that they could produce a horse able to trot a mile in three minutes. They won their bet. Messenger, the father of all trotters, was not there to whinny his approval, having died of a colic in Oyster Bay in 1808 and been buried with military honors which included a volley of musketry fired over his grave.

The inhabitants of cities such as Boston and New York had quite a taste of dramatic entertainment during the Revolution, when the American stage was pre-empted by the British military, who occupied all the theaters and produced a number of plays for charity, for profit, and for their own amusement and presumably that of their audiences. The latter on at least one occasion had the opportunity to laugh at rather than with the performers, for General Burgoyne's soldier actors fled from Faneuil Hall on learning that the Americans they were in the very act of satirizing in a farce called *The Blockade of Boston* were at the same moment attacking the British defenses on Bunker Hill.

During the Republic's infancy the acts forbidding theaters were gradually repealed, in 1789 in Philadelphia and in 1793 in Massachusetts, and theater-going became a part of the life of city dwellers. There were theaters before the repeal of these acts, but they were disguised under such names as the "New Exhibition Room," in Boston, or the "Opera House" in Philadelphia, which was simply the Southwark Theatre under a new name. At the Southwark, plays were presented before repeal under titles intended to make them appear as moral lessons. *She Stoops to Conquer* was changed to *Improper Education*. *Hamlet* was renamed *Filial Piety*.

During the time that Philadelphia enjoyed the position of being virtually

the nation's capital, the Chestnut Street Theatre was built. At the entrance of the pretentious brick building, ushers in powdered wigs met the playgoers and led them to their seats by the light of candles or whale oil lamps. There were two rows of boxes and a pit and gallery where people sat on benches. The walls were painted azure and the classic columns and fronts of the boxes lilac and buff; the latter were hung with crimson silk. The building also contained rooms for dancing, card playing, and tea.







BOOK THREE

The Nineteenth Century—  
The Builders



## CHAPTER X

### 1825-1860: The Doom of the Craftsman

#### INTRODUCTORY

THE machine, which in America made its appearance during the early days of the Republic, extended its conquest during the thirty years that preceded the Civil War. The decline of craftsmanship was accentuated. But the effects of the machine were not all harmful. Applied to transportation, it liberated the settler from the coastal band between the Atlantic and the Alleghanies and made it easier for him to turn his face toward the rays of the sunset and go forth in search of new fields of endeavor. The previous period had seen the birth of a new nation politically. This period saw the birth of a new nation geographically. The new America was to include, in addition to the old settled Eastern communities, raw cities and towns in the West where manners and modes and new aesthetic principles, instead of being handled with moderation, were handled with all the uncompromising exaggeration which characterized the pioneer community.

By 1818 when a hothead called Andrew Jackson was driving the Seminoles across the border into Spanish Florida, the Greek Revival was in full swing. Although rawboned frontiersmen did not recite from the *Iliad* or wear toga and chlamys, they named the towns they founded Syracuse, Troy, Athens, Sparta and Corinth, and lined the muddy streets with peristyles and porticoes. Over dangerous corduroy roads, covered wagons toted the columns of the Parthenon along with the ax, the harrow and the rifle, into the heart of the wilderness. Wherever a new house went up—among the hills of the Western Reserve, amidst the waving grasses of the prairies, on the shores of the Mexican Gulf, along the banks of the Hudson and the newly opened Erie Canal, from Nantucket to Jefferson City, its profile was uncompromisingly Greek.

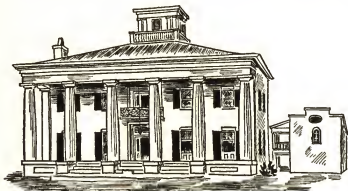
#### HOUSES

After a quarter century of felicitous blooming the Greek style showed indications of becoming over-ripe. Already in the growing communities of the Atlantic seaboard people were beginning to tire of the repetition of Greek motifs. It seemed as if no breeze could blow down Main Street without ruffling a cluster of wooden acanthus leaves.

Gradually native enterprise introduced practical modifications. The South-

ern planter added broad balconies in whose cool shade he could sip his mint julep in idle ease. In the North, the one-story portico of four columns grew into an imposing side entrance under which a carriage could drive so that arriving and departing guests would be protected against the elements.

Many homeowners were content with a colonnade, and entablature encircling the house. But even here, changes took place. Doric and Ionic columns dwindled into thin square posts. Windows and door frames were weighted down with elaborate pediments and ornaments. Jigsaw brackets were added



AN ANTEBELLUM MANSION

Famous are the stately, fluted Doric columns of the severely imposing D'Evereux mansion in Natchez, Mississippi, one of the many large Greek Revival houses reflecting the prosperity of the planters when cotton was at its height. Here was unfurled the pageantry of the gracious, feudal life of planters' families before the War Between the States.

under the corners. Even house design became more elaborate. To the classic Parthenon rectangle wings were added.

Gradually, L-shaped country houses, houses with the gable end on the street—and, in the Middle West, rambling one-story houses—made freedom of planning a characteristic of later classic revival buildings.

The use of cast iron introduced another new note. Rapidly becoming invaluable to railroads, farms and factories, it was produced in increasing quantities and was taken up as a pleasing novelty for house decoration. It hung over the faces of Northern churches and the façades of Southern mansions. Under the refining influence of French and Spanish taste, ironwork found its most graceful expression in the lovely grilles and balconies of Charleston and New Orleans.

A period of confusion followed. Immigrants were coming to America in an ever-increasing stream, and among them were craftsmen and artisans schooled in the different European styles. From Germany came the Baroque of the Northern Renaissance; from Italy, the Roman villa. The English architect

Richard Upjohn, who was to found the American Institute of Architects, was a leading promulgator of the Victorian Gothic influence. Andrew Jackson Downing, America's first professional landscape gardener, popularized the English cottage style. O. S. Fowler designed the ungraceful octagon house to economize outer wall space. Swiss chalets and Moorish palaces found themselves cheek by jowl. To what fantastic length this confusion might lead was shown by the house of P. T. Barnum, the circus king, at Bridgeport, Connecticut, which was a mad jumble of styles.

Saner trends were to follow.

During the night of October 16, 1834, the citizenry of London were awakened by a red glare; the old Palace at Westminster was burning down. Broadly speaking, from its ashes rose the Gothic Revival, just as nearly two



SLAVE QUARTERS

The cabins of the slaves were built in rows; most were of timber, but others, more substantial, were of brick. Within you would be likely to find little more than a couple of chairs, a bed, a few kettles and pots, a frying pan, and a beer barrel. Sometimes there was a "chillun house" where babies were kept while their parents worked in the cotton fields.

hundred years before, the Georgian style had emerged from the ruins of the Great Fire of London. This revival had its origin in religion and literature. Hammered into submission by the mass hysteria engendered by the French Revolution, with its hatred of authority in any form, the Church of England had sunk into a state of apathy. But when the reaction came, it led to a powerful revival of religious feeling. Architecture was one of the first arts to come under its influence, and when the Houses of Parliament were rebuilt, one of the architects entrusted with the task was Augustus W. N. Pugin, apostle of the Gothic Revival.

But more than a decade had to pass before the Gothic style could be widely accepted. It was the great John Ruskin who revived popular interest in things medieval. This precocious individual who wrote fluently at the age of four,

and at nine composed a poem on the universe, was blessed—or cursed—with rich parents who shielded him from contamination, even to the exclusion of all contemporary literature. Every Sunday for the fifty-two years he lived with his parents, screens were placed in front of the pictures in his room lest their brilliant colors prevent his lofty mind from contemplating the sinful estate of mankind. Instead of producing an artistic monstrosity, this helped to make him a great writer, painter and draftsman.

Carlyle called his writings "a sermon in stones." His famous books, *The Seven Lamps of Architecture* and *The Stones of Venice* argued that architecture expressed the religion, morals, patriotism and customs of the people. It aimed to give form to spiritual forces in wood and stone. To Ruskin, these found their clearest manifestation in medieval art.

His doctrine became quickly popular. If such conspicuous figures as Sir Walter Scott, the author of *Ivanhoe*, chose to live in a Gothic manse, the well-to-do Briton felt he might safely follow their example.

In America, Jefferson had toyed with imitations of the Gothic as far back as 1771. And at the turn of the century Latrobe designed the first Gothic building in America, a country house near Philadelphia. But it was not until nearly half a century later when Upjohn, who had by now developed into a master of the Gothic style, built Trinity Church at the head of Wall Street (completed 1846), and James Renwick, St. Patrick's Cathedral on Fifth Avenue in New York (begun in 1858, opened in 1877, but not completed until 1910), that the Gothic Revival in this country reached its height.

But what may be appropriate for a church may not be appropriate for even a pretentious house. In order to satisfy the requirements of the Gothic arch, the Gothic villa was compressed into a disproportionate mass. Windows, doors and ceilings were too high; halls and stairs were too narrow. Rooms and porches all had to conform to the same unhappy principle. Even the tin bathtub which reposed grandly in the single bathroom at the head of the stairs was high and narrow.

What had been beautiful when applied to religious architecture, when applied to houses became grotesque. Householders, decorators, and most architects, attempted to make up for lack of imagination in style and design by lavishness of decoration. A bare spot was not to be endured. Pointed gables, towers and oriel windows broke the outline of roof and façade. Bay windows were supported by heavy decorative brackets. Hollow brick walls, often painted a dark brown, were adorned with elaborate stone trimmings on slight provocation. Behind the flamboyant curves of cast-iron ornaments gleamed small, diamond-paned, casement windows.

Inside, softwood floors were entirely covered with carpets in brightly flowered patterns. There was a fireplace in every room. Flowered paper covered the walls to within two or three feet of the floor. A stained or gilded wood molding separated the wallpaper from the plain strip beneath, which was





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### THE SILHOUETTE RAGE

"It is the very perfection of your art," generously wrote Henry Clay to William H. Brown, probably America's master silhouettist, of this brilliant profile of his old political adversary, the picturesque and intemperate John Randolph of Roanoke. It appeared in Brown's "Portrait Gallery of Distinguished American Citizens With Biographical Sketches and Fac-similes of Original Letters," published in Hartford, Connecticut, in 1845. The lithographed backgrounds in this collection give a good idea of the flora, fauna, furniture, and other everyday things in different parts of the country at that time. According to the advertisements the Master inserted in the local papers on his arrival in a given locality, a ten-minute sitting was all he required to turn out a splendid scissors silhouette, for which his honorarium was customarily one dollar.



painted a uniform color. A plaster cornice ran all around the ceiling, with a heavily ornamented rosette encircling the many-armed brass chandelier. Thick satins, draped to the jambs, and crowned with joyously festooned lambrequins, did their best to shut off light and air.

By the middle of the century, black walnut had almost entirely replaced mahogany, which, by a coincidence, had succeeded oak exactly a hundred years before.

Not everyone was satisfied with Gothic exteriors. Americans were looking for a style which could be called domestic and which would liberate them from English influences. In the forties, brownstone from New Jersey quarries began to be used to cover the fronts of houses in New York. Even society leaders who might have known better yielded to the fashion. By the time Union regiments were marching South to the battlefields, brownstone fronts lined the city's thoroughfares. In 1881 the great Vanderbilt mansion on Fifth Avenue, whose designer had planned to use marble or limestone, made its bow in a coat of sober brown.

## FURNITURE

Like architecture, furniture making reflected the confusion and decline in taste which followed upon the classic period. The exquisite craftsmanship of the Chippendale, Hepplewhite, Adam, Sheraton and early Duncan Phyfe styles inevitably gave way before the crude uniformity of machine-made products.

This, however, came about gradually. Although a rapid succession of mechanical inventions—steamboat, steel plow, locomotive—was preparing people's minds for a new age, it was not until about 1840 that machine-made furniture actually became popular. Meanwhile, various styles contended for supremacy.

Napoleon was dead. The Late Empire chairs with their heavy curving backs, vase-shaped splats and flat legs; carved or paneled top rails; sofas with dolphins or cornucopias on leg fronts; with winged lions' paws in place of feet, were on the decline. The typical Late Empire mahogany console table with its heavy white marble top, and the elaborate sofa, were less frequently to be seen.

After three years of costly warfare, Germany had just regained her freedom, and was either too poor or too proud to imitate French styles. German furniture makers evolved a style called "Biedermeier" which, while similar to French Empire, was plainer, more practical and better suited to various woods and finishes. Expensive carvings and ormolu mounts (of gilded bronze) were eliminated. Contrary to the popular trend elaboration was kept to a minimum. Straight lines were favored.

In England three styles conflicted. Their cause was championed in three widely read books which influenced American taste. *The Practical Cabinet-*

*Maker, Upholsterer and Complete Decorator* by Peter and M. A. Nicholson, had adapted the style of the Greek Revival to furniture, chiefly through the use of wood carvings. Ackerman, the magazine publisher, had brought out a folio of color engravings depicting a mixture of Greek and Empire. Even more important were the books of Augustus W. N. Pugin, who championed the cause of the Gothic style in furniture as well as in architecture. His delicate pen and ink or sepia drawings of chairs, tables, sofas, bureaus and even of a grand piano in the Gothic style were much admired. And Gothic might well have triumphed, had it not been for the advent of still another competitor.

On July 31, 1830, Louis Philippe, draped in a tricolor scarf, went on foot to the Paris Hotel de Ville, where he was publicly embraced by Lafayette, leader of the Republican opposition. On becoming king, he made it clear that he preferred the current adaptation of the style of Louis XV with its refined contours and delicate curves, its rococo carvings and extravagant ornaments on gilded woodwork, to the stern Roman classicism of Napoleon.

The comparative pretentiousness of this style appealed to Americans, not loath to display their increasing wealth. Not satisfied with furniture decorated with the flowers, leaves, shells, human figures and lozenges characteristic of the rococo style, prosperous Americans acquired a taste for black-enameled tables, chairs and cabinets often inlaid in mother-of-pearl and decorated in gold and color in imitation of lacquer.

Lacquer itself was too expensive. While Yankee ships had been returning from China since 1785 with lacquered picture frames, trays and screens, it was not until about half a century later that enterprising clipper captains helped spread its popularity.

Despite the variety of influences on American taste, the country was growing so rapidly that there was little time to cultivate it. People were becoming more confident. They were interested in making money. They liked to try out new things. In furniture, they preferred the curious to the beautiful, the eccentric to the artistic. Classic models, on the other hand, they interpreted too literally, lacking the experience which might allow them to take liberties.

The more the machine became a factor in people's lives, the less they understood fine workmanship. The machine could make heavy things just as easily as small pieces, and so they could indulge in their liking for massive furniture, which seemed to them impressive. It could turn out moldings and jigsaw work, carvings and ornaments cheaply, in different styles and different woods.

So great was the demand for every kind of furniture that even inferior products found a ready market. Untrained men went into the business, ignorant of the first principles of design.

At the same time, many people living in hitherto ill-furnished homes could now afford a set of serviceable furniture. Gradually factory production caused the same profound changes in the home as it had done on the farm.

Nor did the craftsman disappear entirely. In the New York of the forties you could still find the shop of John H. Belter. This cabinetmaker did not carve chair backs and sofa backs out of solid wood, as was customary, but built them up out of thin layers with the grain alternating. On such a foundation carving was practically imperishable.

During this period, two small pieces of furniture came into prominence: the ottoman, a low-cushioned seat without back or arms, sometimes tufted and trimmed with fringe, and the whatnot, an ornamental set of shelves, usually five in number, tapering toward the top. The black walnut whatnot



A BELTER SOFA

Whatever one may think of the taste, the craftsmanship of John Belter was above dispute, and these curiously ornate pieces of the fifties, upholstered in rich brocades and damasks, have a certain charm.

became an American institution. There were types to fit the corners, and types to stand against the wall. The side and back edges of the shelves were curved and carved, and four columns or brackets supported each shelf.

"Mirrors and curtains are half the furniture," it was commonly remarked in the 1850's. Beds and windows were elaborately draped, partly for comfort and mostly for elegance. Thick curtains terminated in a richly gilded metal cornice, decorated with wreaths, flowers or blossoms beneath which hung a lambrequin—a short piece of drapery—fitted with heavy cords and tassels. Draperies were fashionable because they were expensive. Plain worsted and cotton damask cost ten dollars a yard, while fine satins from India would run to almost as much as that a yard. Some favorite color combinations were blue and gold, gold and green, purple and gold, and blue and fawn. Mirrors,

also draped, had grape vines twining about the scrolls and bunches of fruit at the top.

Mahogany was still the most fashionable wood, although rosewood, curly maple and satinwood, often veneered on pine or oak, were popular. Many pieces turned out between 1835 and the middle of the century, were entirely covered with crotch-figured mahogany.

Theodore Roosevelt spent his childhood in a brownstone house at 28 East Twentieth Street, in New York, whose furnishings at the time of his birth showed the generous use of rosewood. There were rosewood sets in the dining room, the library, and in the living room, which also contained a heavy rosewood Chickering piano made in 1849, and a marble-top rosewood whatnot. In a bedroom on the second floor is a satinwood set elaborately trimmed with rosewood.

The house is full of mirrors. In the living room, one gilt mirror covers the entire wall space from fireplace to ceiling while another fills the space between two tall windows from floor to ceiling; mirrored doors complete the ensemble. The waxed flowers enclosed in glass on the marble-top table add the ultimate touch for a perfect picture of an early Victorian interior.

## CLOTHES

As the country grew and cities expanded, new horizons opened before the American woman. Horsecars made it easy for her to get about the city; railroads and steamboats facilitated travel through the populated sections of the country; and packets sailing on regular schedules brought even London and Paris within convenient distance.

In the realm of intellectual activity as well, new fields opened up. The burning issue of slavery; Darwin's startling interpretation of the origin of man; the advocacy of popular causes by such journalistic pioneers as Bennett and Greeley, and Horace Mann's fight for progress in education, aroused her interest and stimulated her imagination.

Nothing of this was expressed by the clothes she wore. Fashions continued to imply that women were fragile, sheltered beings ready to swoon at slight provocation. Thoroughly unsuited to their daily activities, their dresses were little short of fantastic. The early days of this period saw the beginning of the full-bodied skirt, not very different from the hoop skirt in vogue a hundred years before. The long straight skirt of the classic era gradually expanded until by the middle of the century it had reached a maximum of ten yards in circumference. Tapering as it did to the waist, it gave its wearer the appearance of a gracefully proportioned bell.

At first these skirts were held out by petticoats with pads of horsehair, to which they owe the name of crinoline, *crin* and *lin* being the French words for horse hair and flax cloth. By 1850 these pads had been replaced by wire hoops, but the name stuck, and this period is known as the Crinoline Age.

As skirts grew wider, they grew longer. Stopping a little short of the ankle at first, they gradually reached to the floor. An "elevator" was devised which made it possible to pull up the outer skirt, revealing the decorative under-skirt, and enabling the wearer to walk more freely.

Few fashions have been more ridiculed than the crinoline. The rigidity of the projecting wire hoop made it clumsy and awkward to go through a door, tie a shoe lace, or pin up the back hair, not to mention getting in and out of carriages, or passing down the cramped aisles of trains and trolleys. When Lady Dorothy Neville's hoop skirt caught fire at a party, none of the other ladies could come near enough to be of assistance; fortunately she had the presence of mind to roll herself in the hearthrug and extinguish the flames.

Yet the crinoline had very real advantages. It allowed more freedom than did the assorted petticoats of an earlier day. It was lighter and more hygienic; and it brought prosperity to the wire manufacturers.

Sleeves, even before the crinoline, showed a tendency to puff out and although for a while before 1840 they shrank a bit, before long the amount of material used for a pair of them would have sufficed for a skirt.

Coiffures were equally fantastic. Flat in front and parted in the middle, the hair would be drawn up from the neck and built into a fancy crown adorned with combs, flowers, feathers, ribbons or lace. Side curls peeped out from behind the ears, and one lock would be charmingly out of place on the forehead. Later, half-hanging ringlets increased in size as the coiffure gradually came down from its towering height, slowly receding to the nape of the neck. Bonnets were at first worn well forward and tied under the chin. Later they slipped so far back that they seemed to be slipping off. A ruffle was added which hung down to the shoulder.

The popularity of the crinoline and of a certain distinctive little three-cornered hat increased when Empress Eugénie wore them on her famous drives through the Bois de Boulogne, and on festive occasions in the Hall of Mirrors in the Palace of Versailles.

Under the influence of the Gothic Revival in architecture, American women liked to wear earrings in the Gothic style. Black was the fashionable color for dresses though white satin might be chosen for *grande toilette*. White silk or cotton stockings, embroidered for evening, were well-nigh universal. Shoes had square toes and no heels.

In the midst of this rather artificial Victorian elegance a solitary voice was heard calling for woman's sartorial emancipation. Amelia Bloomer, editor of a temperance journal and advocate of women's suffrage, appeared on the lecture platform grotesquely attired in loose Turkish type trousers gathered around the ankles. This was her way of demonstrating that woman was ready to assume some of man's prerogatives. And although dress styles have since changed considerably, the "bloomer," in modified form, and chiefly as an undergarment, has survived.

In the 1830's men's costumes were almost effeminate. Women's skirts narrowed from a wide bottom to a wasp waist—men, with their broad padded shoulders, tapering inward to a tight waistline, achieved a similar effect in reverse. A large rolling collar accentuated the contrast between shoulders and waist. Coats, sleeves and trousers, the latter cut at the instep and strapped



A BELLE OF THE THIRTIES

A particularly lovely blue-green taffeta was used for this dress, trimmed with folds of the same material; the white chip cabriolet bonnet was trimmed with white satin and pale pink daisies. Almost as much material was required for the big puffed sleeves as for the skirt; they were sometimes extended on top by means of little cushions filled with down. This had the effect of making the waist look slimmer. Cape and long undersleeves were generally for street wear.

beneath the boot, fitted without a wrinkle. Hairiness was *de rigueur*. Men wore loose locks waved over the forehead; gallants sported muttonchop whiskers.

A typical gentleman of the period might be seen in winter making a call in a brown overcoat, lined with green velvet and fitted with three tab fasteners, with the same narrow waist; buff cashmere trousers, black polished shoes, a green silk tie, yellow gloves, a black beaver hat with small brim, and a silver ivory-topped cane.

"Young Dizzy" Disraeli startled Commons in 1837 with a bottle-green

frock coat, loud-patterned pantaloons and waistcoat resplendent with gilt chains. Later, Prince Albert was pictured so many times in a double-breasted frock coat with a velvet collar, fitted at the waist and reaching almost to the knee, that he was credited with originating the style. Gentlemen of the period were in the habit of inserting two fingers of the right hand beneath the facing of the coat in a self-satisfied gesture.

Cutaway coats, known as "swallow-tail," "claw-hammer," and "steel pen," were worn in the morning as well as the evening until 1860. They had large pockets set in the tails, into which everything was stuffed which might conceivably be needed, from handkerchiefs and snuffboxes to letters, books and newspapers. Fagan's first lesson to *Oliver Twist* was how to pick tailpockets. In crowds, thieves sometimes simply cut off the tails.

Americans followed English styles, and the visit to the United States of the Prince of Wales, later Edward VII, in 1860 only served to heighten this interest. He was considered to be Europe's best-dressed man.

At this time the long black broadcloth coat was worn with rather loose trousers in dull shades, neckties carelessly tied, high-crowned hats and shawls. Thus, Vachel Lindsay, in his poem "Abraham Lincoln Walks at Midnight":

" . . . his suit of ancient black,  
A famous high top-hat and plain worn shawl  
Made him the quaint great figure that men love . . ."

Not everyone was as simple in his tastes as the President of the United States. Many a prosperous merchant indulged his fancy for flowered waistcoats and conspicuous jewelry.

For many years the costumes of American diplomats abroad reflected the struggle between the extravagance of European fashions and native simplicity. During the classic era, the court dress was a blue dress coat lined with white silk, straight standing cape, white knee breeches and silk stockings; sword, and a three-cornered soft hat which could be folded and carried under the arm. It is not to be wondered that Andrew Jackson who had swept through Washington like a fresh breeze from the prairies, clad in buckskin shirt and wearing his hair long, should advocate a more democratic costume. But he did not succeed. And when in 1853 President Pierce's Secretary of State ordered diplomatic representatives to "dress like American citizens" he almost caused an international upheaval.

Perhaps the most sensible solution was that adopted by Buchanan at the Court of St. James, who wore a white tie and waistcoat, adding a black sword in order not to be mistaken for the butler.

## FOOD

Although people in the growing Republic lived frugal lives, they did not deny themselves the joys of a full table. The English writer Harriet Marti-

neau, who traveled in the United States in 1834, described an average breakfast as consisting of a pie dish full of buttered toast, hot biscuits and coffee, beefsteak, apple sauce, hot potatoes, cheese, butter, and two large dishes of eggs. As she was deprived of the sense of taste or smell, her testimony in regard to culinary matters may be considered as objective. Even the transcendental Emerson would not let breakfast go by without his pie.

The paterfamilias sat down to breakfast at seven o'clock and expected his wife and daughters to be present. Dinner was served at noon but on festive occasions was sometimes delayed as much as four hours. A meal of chops, steaks or roast, with potatoes, green corn and peas, was finished off with pudding, pie and coffee. In wealthy homes the principal dish might be home-raised chickens and a Virginia ham, preceded by okra soup and followed by orange fritters, to the genial accompaniment of wine, champagne, liqueur and coffee.

People were forever eating. They insisted on meat three times a day. Even then they snatched fruit from the table in case the pangs of hunger should assail them between meals. They swallowed their food almost whole. With studied elegance they were careful to spit into the fireplace unless it was too far away, in which case the carpet would do. They hated exercise.

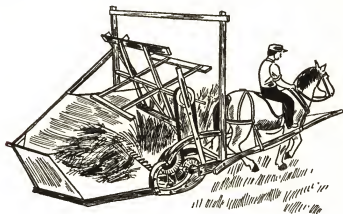
In 1840 a man in Connecticut, Sylvester Graham, fell ill. Blaming his daily bread, he tried unbolted flour and his health immediately improved. He became a vegetarian and a teetotaler, which, at a time of rich food and copious beverages, aroused hostility. But the bread he originated has preserved his name for posterity.

## AGRICULTURE

Within the thirty years preceding the Civil War the machine took an ever-increasing share in the work on the farm. At the time of Jethro Wood's death in 1834 thousands of iron plows like the one he had invented were taken to the Western prairies by settlers. But although these plows worked well enough in the comparatively light sandy soil of New York and Pennsylvania, something better was needed to cut through the roots of the long prairie grass, throw the heavy sticky loam clear of the share and turn it into neat furrows. Other men were working on the problem of stronger plows. There was John Lane at Lockhart, Illinois. Then there was a stalwart young blacksmith, John Deere of Grand Detour, with his partner Leonard Andrus, who used steel from a circular saw because it was the best steel obtainable. Omitting the colter—a disk on the beam to cut the sod—and the wooden backing, Deere cast the share and the moldboard in a single piece. This made the plow so light that he could sling it over his shoulder and carry it to the field. With a royalty of three cents on every plow, Deere was soon able to give up the shoeing of horses. In opening up the West, the steel plow played an important role.



With the cultivation of large areas, harvesting became a problem. Wheat throughout the prairies ripens at about the same time and unless quickly cut, falls to the ground and rots. Obed Hussey, a sailor from Nantucket, who knew more about reefing and splicing than about the problems of the farmer, was dared by a friend to invent a reaping machine. Hussey was a brilliant man, generous, stubborn, moody, lazy and impatient by turns. This time he set to work in earnest. Before a year was over, in 1833, he had patented his reaper, which consisted of a blade with sharp saw teeth moving sideways in a row



AN EARLY REAPER

Here is one of the earliest models of the reaper perfected by Cyrus H. McCormick. One man rode or drove the team; another raked the cut grain off the platform. At a public demonstration in 1831, skeptical farmers were amazed to find that it cut six acres of wheat in half a day, or as much as half a dozen men could do.

of iron fingers. The teeth would shear off the stalks against the fingers and the grain, cut cleanly and close to the ground, would fall upon a platform mounted behind. The small vehicle which carried the cutter was drawn by horses walking beside it so that they would not trample the standing grain.

But it was left to Cyrus Hall McCormick, son of a Virginia farmer and, unlike Hussey, a practical, persistent and open-minded man, to reap the benefits of the growing popularity of the reaper. In 1834 he had patented his own model—whose priority as an invention was eventually admitted by Hussey—and had never ceased to improve upon it. Moreover, he had great commercial ability. At a time when Chicago was a teeming metropolis of some ninety families plus a handful of Indian squaws, McCormick, foreseeing that the West would become the granary of the country, moved his factory there.

As the reaper was a newfangled contraption to most farmers, McCormick gave them a chance to try it out and plenty of time in which to pay. Within

twenty-five years he had sold over 23,000 reapers and made a profit of more than a million dollars.

It has been said that the reaper moved the frontier westward at a rate of thirty miles a year.

These new machines stimulated the mechanical bent of the people. Every smithy, every watchmaker's stall, every carpenter's shop housed the fantastic dreams of inventors, many of which came true. In 1834 the Pitts brothers of Maine built a combined threshing and fanning mill. Six years later a harness maker named John E. Heath, invented a mower and followed it up with the first grain binder. In 1850, "Old Father Quincy" patented a corn-picking machine after forty years' wandering through the corn belt, fairly begging food, shelter and money with which to perfect his invention. M. Robins of Cincinnati had the idea of stretching a wire across the field, knotted at intervals to operate a dropper for planting corn. After a series of failures he died poor and disappointed. But the knotted-wire corn planter eventually became a reality.

One effect of the machine was to hasten the substitution of the quicker and more adaptable horses and mules for the slow-moving, thick-witted oxen hitherto preferred because they could feed off the land and produced beef, and because yokes and chains were cheaper than harness.

If the reaper, the binder and the thresher reduced the amount of hand labor in the West, in the South the cotton gin had the unexpected effect of giving a powerful stimulus to slavery by making cotton raising profitable. The number of slaves increased from 700,000 at the time the gin was invented to 4,000,000 in 1860. With cheap labor plentiful, the machine was unattractive. Too, white workers found little inducement to go South. The cleavage was gradually forming which was to lead to a fratricidal war.

In the country at large, an interest in scientific farming arose. The Gardiner Lyceum in Maine was probably the first institution to give an agricultural course, and a few years before the Civil War the states of Michigan, Maryland, and Pennsylvania, opened colleges of agriculture. With millions of settlers cultivating new areas more rapidly than ever before, the government felt the need of studying soil conservation. In 1839 the Commissioner of Patents was authorized to spend up to a thousand dollars for the collection of agricultural statistics and the promotion of agriculture. From this tiny egg was hatched the enormous Department of Agriculture of today.

## TRANSPORTATION

When young Benjamin Franklin went to England to learn more about printing, he observed that the wagons used to haul coal from the mines ran on wooden rails topped with strips of iron. In this way, he learned, heavier loads could be moved with less strain on the horses, and with less damage to the road.

In spite of the popularity of canals as a mode of travel, "rail-ways" gradually came to be used in mining regions and other hilly sections where the building of waterways would have been too expensive. The first "railroad" in the United States was built in 1827 at Quincy, Massachusetts, to haul granite by horsepower over a distance of three miles. Visitors came from all over the country to admire it, including Daniel Webster who thought, however, that frost on the rails would preclude its use in winter.

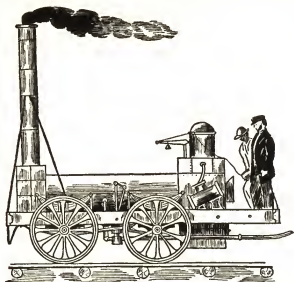
Yet it was a canal engineer who introduced the locomotive. At the height of the canal boom, Horatio Allen, twenty-three-year-old son of a mathematics professor at Union College, Schenectady, had the courage to back his faith in the superior possibilities of steam railroads. They were cheaper to build; they traveled—it was reported from England—at fifteen and even twenty miles an hour, and, unlike canals, could operate in winter as well as summer. Fantastic as it may seem, one could conceive of them as running night as well as day. Had not word already come of locomotives attaining the unbelievable speed of forty miles an hour?

Allen's employers, the Delaware & Hudson Canal Company, were building a railway. He persuaded them to substitute locomotives for horse power. Three of the four steam engines which he brought back from England, were made in Stourbridge; the fourth was built by Stephenson, designer of the first "travelling-engine" in 1813. A capricious painter in England had decorated the rounded boiler front of one of the machines with a lion's head in glaring red strokes, and the "Stourbridge Lion" was the first locomotive to make a successful trial run in America. Allen undertook to pilot it, everyone else expecting that either the road would break down or the engine would jump the track on the first curve. Two vertical cylinders were placed behind the horizontal boiler. The locomotive's four wheels, made of oak with iron rims, were all drivers. Too heavy for the rails, the "Stourbridge Lion" and its three brothers were abandoned.

The chief incentive to the development of transportation by rail came from the rivalry of three great Eastern cities—New York, Philadelphia, Baltimore—for commercial supremacy, a rivalry which has not died even today. New York had the advantage of a direct line of communication with the heart of the growing West by way of the Hudson River and the Erie Canal. Unable to afford a competing waterway, a group of influential men in Baltimore, which included Charles Carroll, the last surviving signer of the Declaration of Independence, in 1827 obtained a charter for the first organized railroad in America, the Baltimore & Ohio.

Three years later a jack-of-all-trades and master of many, Peter Cooper by name, had bought three thousand acres of land along the proposed route of the railroad. Wishing to make the land more valuable, he interested himself in the development of steam transportation. In his foundry he knocked together a locomotive weighing less than a ton. A multitubular boiler, con-

trived of old musket barrels, enabled the "Tom Thumb" to attain a top speed of eighteen miles an hour, carrying six men on the engine and hauling a car with thirty-six passengers. Although never intended as anything but a working model, it was so well designed and built that it could handle curves with-



ONE OF THE FIRST LOCOMOTIVES

The *West Point*, built in 1831 for the Charleston & Hamburg R.R., was the second engine turned out in America for other than experimental purposes. It was not very different in type from its predecessor, the *Best Friend*, which exploded when the fireman sat on the safety valve. After that it became the custom on the line to separate locomotive and passengers by a car loaded with bales of cotton, acting as a kind of bulwark, and a car carrying a brass band, presumably to rally the passengers' morale.

out danger. Four years were to pass before English engineers could turn out as good a locomotive.

Threatened with arrest because the noise from the exhaust frightened horses, Cooper turned the exhaust pipe into the smokestack, unwittingly providing a forced draft.

Many other inventors devoted their talents to the improvement of engine, car and track; men like Horatio Allen; a Philadelphia watchmaker named Phineas Davis who mounted his engine on springs; and Ross Winans, an energetic director of the Baltimore & Ohio who made trains more stable by introducing the inside wheel flange. He anticipated the modern passenger coach by building a car mounted on four-wheeled trucks, seating sixty. These improvements, however, did not suffice to overcome popular prejudice in favor of canal travel. In the twenty years of its infancy, the railroad was a

stepchild of the canal. It was used chiefly as a feeder and on grades. Not until 1850 did the railroad emerge as an independent system of transportation able to compete with roads and waterways. If it gained favor slowly, the reason was that a journey by rail was an adventure not to be entered into lightheartedly.

Gentlemen in high-top beavers and ladies in demure crinolines settled down in their seats tremulous with anticipation. When the beaver hat was suddenly tilted backwards and the couples received a violent jolt, they knew the train had started. Down the track it went at the terrifying speed of twenty miles an hour, breathing fire and smoke and shaking crazily from side to side, preceded by the squawks of indignant chickens and followed by the curses of teamsters and coachmen.

Another jerk signaled the arrival at a water station or the exhaustion of the wood supply. In that case the crew might have to get off to chop wood in the surrounding countryside. On certain railroads the train might be held up with engineer and passengers raging and cursing while a farmer who had paid toll for the privilege drove his specially adapted wagon down the track, stopping every few miles to water the horses, light his pipe, inquire about the crops and exchange pleasantries with neighbors going in the other direction, and never missing an opportunity to annoy.

If the delay seemed likely to prove long, all hands from the engineer to the last passenger would trek over the fields to the nearest inn and while away the time over a glass of whisky or one of the numerous specialties for which some inns were known: chicken fricassee; beer and gingerbread; big fat doughnuts.

During the first ten years of American railroads the engineer was an autocrat. The conductor could not even communicate with him unless he managed to attract his attention by climbing up on the roof and shouting and waving. When Conductor Ayres of the Erie Railroad tried to improve on this system by running a stout cord from the rear car to the engine, ending in a stick which bobbed up and down, Engineer Hamel considered this a violation of his prerogatives. Every morning he would rip out the cord and every afternoon Ayres would put it back. It took a fist fight to settle this momentous issue which ended in the triumph of progress.

In the early days the round trip between New York and Washington took nearly a week. "Left New York at 6 a.m. on Monday," wrote a businessman in May, 1831. "Arrived in Philadelphia at 5 p.m. . . . Started on Tuesday morning at six for Baltimore where I arrived at 5 p.m. . . . Started at four a.m. on Wednesday for Washington, and arrived a little after nine a.m."

A few years later, trains were running at night. Horatio Allen had the idea of putting a little flatcar in front of the locomotive on which burnt a fire of pine knots. This was followed by a lamp in front of the engine, but the most important development, the reflector, did not come in until 1840.

The first passenger cars, which resembled market carts, were shortly succeeded by what were essentially large stagecoaches. Another type was a combination freight and passenger car shaped and built like an enormous barrel, with seats running lengthwise. From 1840 on, the passenger car was standardized, being eight feet wide and thirty-five to forty feet long. It had a narrow center aisle which superseded the English-type outside aisle in spite of widespread fear that it would serve as one long spittoon. As in fact it did.

The steam engine had less difficulty in adapting itself to transportation by water than by land. As the frontier moved westward, canals and rivers played an increasingly important role. Back in 1816, the townsfolk of Wheeling on the Ohio laughed at Henry Shreve and his craft which violated all known rules of shipbuilding. It had a flat, shallow keel-boat hull. The engines were placed on deck, and another deck was added above them. It was the first steamboat designed to run on instead of in the water, and every river boat since has been built along the same lines. Many years passed before these boats told something better than a story of bursting boilers, mechanically ignorant captains and mates, hastily knocked-together engines and wholesale accidents. Yet by 1835, there were nearly three hundred steamboats on Western rivers with a tonnage greater than that of Great Britain and our own Atlantic seaboard combined.

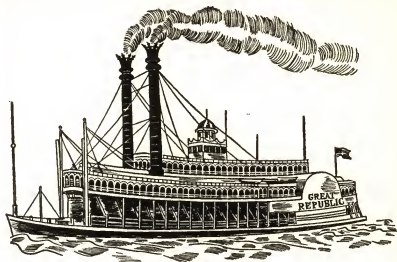
Although they were known as "floating palaces," Dickens thought them ugly top-heavy tubs resembling frigates without masts, and the ill-humored Mrs. Trollope disliked them "because the passengers gorged themselves at table, coughed, spat and ate with their knives." Yet, compared with the uncomfortable stagecoach and railway car, these spacious, ornate and majestically gliding steamboats attracted many an aristocratic planter and his lady, many a cosmopolitan traveler from the East, in addition to a motley crowd of half-breeds, gunmen and gamblers.

An American had been experimenting with steamboats in coastal trade as early as 1815. But coal was not only costly; it was bulky and heavy, and the steamers, laden with fuel, were regularly outdistanced by fleet sailing ships. Not until fifteen years later did improvements in the steam engine make possible faster and more frequent schedules. Even then, the New England sailing vessel was unexcelled for long voyages, and it was left to the British to inaugurate regular transatlantic crossings under steam. In 1838 the *Sirius* and the *Great Western* arrived in New York within a few hours of each other. Two years later a Canadian, Samuel Cunard, helped by a mail subsidy from the British government, organized a line of his own between Liverpool and Boston.

The New England merchant, whose efficient square-riggers sailed the seven seas from Australia to Cape Horn, could afford to ignore the steamboat. In 1836, no less than fifty packets were plying between New York and Liverpool, London, and Havre, on fixed sailing schedules. Yankee traders brought

rum and slaves from Jamaica, tea and lacquer from Canton, spices from Singapore. They carried hordes of immigrants from Hamburg and Rotterdam to the gateway of the New World.

Traveling in steerage, these immigrants paid but a pound and a half for "berths, fire and water" and had to furnish their own provisions and bedding at an additional cost of two pounds. They fared hardly better than the live-



A MISSISSIPPI STEAMBOAT

When the railroad was in its infancy, the steamboat played a tremendous role in the life of the Mississippi valley. The currents of trade, which had been running from East to West, began to run from North to South. Louisville, St. Louis, Cincinnati, and Pittsburgh began manufacturing on their own account and sent their products down to the plantations. Even more important became the shipment of vast quantities of cotton, sugar, and molasses from the plantations down to New Orleans, which reached its zenith just before the War Between the States.

stock carried to supply three good meals a day to travelers who could pay thirty pounds for a roomy cabin. For these "first class" passengers were reserved such luxuries as hot rolls—replacing the none-too-tasty ship's biscuits of former days—and even a medicine chest which took the care of the sick out of the hands of Chips, the carpenter.

The trip to New York would take thirty-four days, more or less, while the eastward crossing with favoring winds required only three weeks.

Efficient as they were, these full-bodied packets with their bluff bows did not satisfy the enterprising Yankee merchant. During the thirty years preceding the Civil War, vast hitherto unexploited areas throughout the world were thrown open to international trade. As the leading seafaring nations, England and the United States vied with each other. While the British were

quietly developing the steamship, American shipbuilders were evolving the clipper in a unique bid for supremacy.

With trade increasing, there was plenty of money to build, but not enough ships. Traders were willing to go to any length to race the first crop of China tea into Baltimore, Boston, and London. Isaac McKim of Baltimore thought nothing of spending nearly fifty thousand dollars in 1833 for the *Ann McKim* which was capable of making the China run in a hundred and fifty days. A development of the old Baltimore clipper, she was larger and faster, as well as handsomer, and foreshadowed the extreme clipper designs of the middle of the century. Nevertheless, when in 1845 a young New York naval architect, John W. Griffiths, produced the designs for the *Rainbow*, also for the China run, his employer and his fellow workers thought him crazy. Such a design might be suitable for a yacht, they thought, with its long concave bow, and its afterbody tapering under water. But the *Rainbow* justified Griffiths' hope, and when the California and Australia gold rush came, no less than a hundred and sixty ships were built along similar lines within four years.

In 1843, the *Natchez* had sailed from Canton to New York in ninety-two days; in 1850, the *Oriental* landed a cargo of tea at the West-India Dock in London ninety-seven days out from Hongkong. The record for tea clippers was broken by the *Cutty Sark*, built in 1869. Clippers frequently averaged fifteen to eighteen knots over long stretches and attained a top speed of twenty-one knots. The clipper trade was stimulated by the establishment of five new treaty ports in China, and by the repeal of the British Navigation Acts which opened Britain's far-flung commerce to all nations.

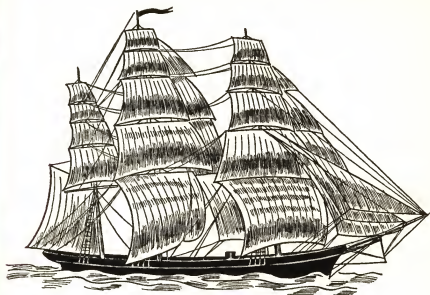
These record voyages excited the popular imagination. The captains of the fastest ships were idolized and fêted in the mansions of the rich and the dance halls along the water front. Shipyards along the Atlantic seaboard echoed to the sound of hammer and saw. A "blue-nose" from Nova Scotia, Donald McKay, who had built several well-known packets for the Train Line and had settled in Boston, became America's greatest designer and builder of clippers. He it was who turned out one of the swiftest, most seaworthy and most beautiful clipper ships that ever sailed under the American flag: the *Flying Cloud*.

Its towering mass of snowy canvas contrasting with the sleek line of its black hull as it furrowed the ocean's green expanse, the clipper ship was a thing of almost ethereal loveliness. Moreover, it was a product of honest workmanship and had "that peculiarly satisfying beauty which always belongs to the thing absolutely fitted for the purpose it is designed to fill."

Thirty years after the *Ann McKim* had sailed out of Baltimore, the Civil War hastened the doom of the clipper, already menaced by slackening trade and the inexorable advance of the steamship. During the conflict some were sold, many were burned, others rotted at the wharves. When the war was



over, America had lost its supremacy to England. A few years later, in 1869, what clipper crews scornfully called "that dirty ditch"—the Suez Canal, was opened, halving the distance between England and the Far East and diverting traffic to steam vessels. Clipper ships died a lingering death, many of



THE FLYING CLOUD

Greatest of all American shipbuilders was Donald McKay, and greatest of all his clippers was the *Flying Cloud*. On her maiden voyage she made San Francisco from New York around the Horn in eighty-nine days, a record. In addition to being the swiftest vessel that ever sailed under the American flag, she was a thing of rare beauty.

them going to Australia to be used in the wool trade, and vanished, closing a brilliant and romantic chapter in the story of the nation's development.

"O, the times are hard the wages low,  
Leave her, Johnny, leave her,  
I'll pack my bag and go below;  
It's time for us to leave her."

On a sailing ship, the packet *Sully*, returning from England in October, 1832, a conversation took place which was to have far-reaching effects. A painter on his way home after three years in Europe studying the old masters, listened to a discussion of Faraday's latest report on magneto-electric induction. Dr. Watson of Boston referred to the fact that a charge of electricity lost practically no time in traveling a length of wire. "Then," eagerly broke in

the painter, who had studied electricity in college, "it should be feasible to send messages by electricity." Fascinated by the possibilities of the idea, he forgot his art and gave himself no rest until, by the time the ship reached New York, he had completed a crude sketch of a recording apparatus.

His name was Samuel F. B. Morse, and he was not to give another thought to painting until he was an old man. Four years later, making his own molds and castings, he had perfected a working model, using an old picture frame and parts of a wooden clock. An electro-magnet, actuated by the closing and opening of a circuit, attracted and repelled a pendulum, ending in a pencil, which was suspended from the frame over a continuously moving strip of paper.

Disappointed over Congress' failure to appropriate funds for an experimental telegraph line, Morse tried his luck in Europe. England was not interested; France used his patents and paid him nothing; Russia ignored him. So he came back to America where he found Congress in a changed mood and obtained \$30,000 with which he built a line from Baltimore to Washington.

On May 24, 1844, he successfully transmitted the message: "What hath God wrought."

The telegraph proved useful in the Mexican War, and by 1860 there were fifteen thousand miles in operation in the United States.

The following year the network was extended to the Pacific coast. Morse became wealthy, and the foreign nations which had snubbed him now extended him handsome recognition.

While Morse was struggling to perfect the telegraph, another inventor was vainly seeking a way to make rubber withstand extreme heat and cold. When one day in 1839 he accidentally dropped some India rubber mixed with sulphur on a red-hot stove, Charles Goodyear realized that his years of search were at an end and that the vulcanization of rubber was a reality. This discovery was the beginning of one of the world's greatest industries. Goodyear obtained some sixty patents covering the manufacture of rubber boots, belting, hose, floor mats, overshoes, waterproofs and other articles.

Now that the telegraph had become a reality on land, people's minds turned to the possibility of a transatlantic cable. This became feasible with Goodyear's discovery of the vulcanizing process, by which great lengths of wire could be insulated. Cables had been laid across the English Channel. But when a wholesale paper dealer hailing from Stockbridge, Massachusetts, called Cyrus W. Field proposed to lay one across the Atlantic, people called the project "a mad freak of stubborn ignorance."

Field was a rich man. He shrugged his shoulders and, after consulting Morse, formed a company which in 1857 began laying the cable. Ships started simultaneously from opposite sides of the Atlantic but the cable was so heavy it broke in two. Refusing to be discouraged, Field tried again the following

year. He began in the middle of the ocean; one ship moving east, the other west. Three times the cable broke and a piece nearly 300 miles long was lost. Ill luck only increased his determination. This time the cable was completed. But his triumph was short-lived; within a month, an exceptionally strong current burnt out the wires. Impoverished, Field was the butt of jokes.

Unable to obtain further backing in America, this indefatigable entrepreneur had to cross the ocean sixty-four times before obtaining British funds with the aid of which, after one more failure, he finally succeeded in July, 1866.

Congress gave him a vote of thanks and a gold medal, and the public which had mocked him now sang his praises.

## INDUSTRY

With the increasing use of steam on rivers, across country, in the mines and in the shops ominous gaps appeared in the forests. Another type of fuel was clearly needed. Fortunately a trapper in the Lehigh Valley had stumbled over what looked like a shiny black stone and discovered rich deposits of coal. Other hunters had found coal near Pottsville, Pennsylvania and the Schuylkill region.

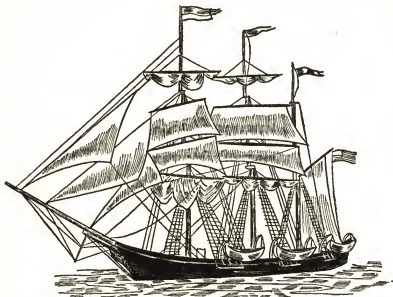
In the early days of coal mining the coal was broken loose with crude picks and thrown into baskets which were carried up and down long ladders. Later, carts replaced the baskets. Women and children hauled it along the galleries to the foot of the shaft. A bucket and windlass operated by mules or horses, and ultimately by steam, hoisted the coal to the surface.

People would not believe that "rocks" could burn in the fireplace, and when a couple of Connecticut Yankees, John and Abijah Smith, designed a grate, people came from miles around.

Just before the Civil War fourteen million tons of coal were mined in this country of which nine million were Pennsylvania anthracite. Such quantities could never have been utilized had it not been for the emergence of steel. William Kelly, who made kettles for boiling sugar in Kentucky, annoyed his customers by trying to improve the quality of the iron he used. This he did by blowing air into the molten pig iron thus converting it into steel. In spite of the remonstrances of his irate patrons who demanded the same iron to which they were accustomed, and in spite of his father-in-law's threat to withdraw all the money he had put into the plant, Kelly persisted and patented a converter in 1857.

Unhappily for Kelly, a man in England was working on the same problem at the same time. Henry Bessemer, who had already invented a stamping device, a bronze powder for gold paint and rifling for projectiles, was trying to improve the quality of English cannon, which had not given a good account of themselves in the Crimean War. One day he found a piece of iron shell with the carbon burned out of it on the edge of his furnace. After sleepless

nights he came to the conclusion that it was the passage of air through the molten metal—as Kelly must have divined—which removed the carbon and made the iron malleable. Hurriedly he built a big pot, lined it with firebricks and clay, melted the iron and passed air through it. Sparks were followed by a flame. Then the metal began to bubble and dance. Out flowed steel which, when cold, could be flattened under the hammer without cracking.



A NINETEENTH-CENTURY WHALER

By the middle of the nineteenth century, whaling was the third most important industry in Massachusetts, and great fortunes were amassed. Distant whaling grounds—the Indian Ocean, the coast of Japan—were opened up, and whalers made voyages lasting from two to four years. Many large merchant ships which had outlived their usefulness were converted into whalers, and New Bedford, with its accessible harbor, replaced Nantucket as the whaling center of the world.

The Bessemer process marked the beginning of the Age of Steel which was to culminate in the skyscraper, the suspension bridge, the ocean liner and a network of railroads spanning the continent.

Other great industries were born at this time. So pervasive was the inventive urge that the most unexpected people made discoveries of far-reaching importance. In the oppressive heat of a summer day a man walking along Broadway in New York stopped for a moment under a drugstore awning. His attention was attracted by a bill in the window advertising “medicinal petroleum,” pumped from a salt well 400 feet below the surface. George A. Bissell was a lawyer and trained to make deductions: why not drill directly

to the stratum from which almost pure oil could be obtained? With the help of Colonel E. L. Drake, and Uncle Billy Smith and his two sons, experts in the drilling of salt wells, he soon had a well at Titusville, Pennsylvania, pumping a thousand gallons a day. The first oil boom was under way.

Between 1840 and 1850 more than 6,500 patents were recorded; and in the following decade some 28,000.

## LIFE IN THE COMMUNITY

The factory was a powerful influence in changing the nation's way of living. Heretofore, linen, clothing, furniture and many other articles of everyday utility had been made in the home, and only in sufficient quantity to satisfy the needs of the individual family. But now with factories producing large numbers of the same type of articles, promoted by entrepreneurs, and erected near swift streams, waterfalls, coal or iron mines upon which they relied for power or raw materials, workers were drawn from the home. Cities grew.

With their growth came improvements. In 1816 Baltimoreans elbowed their way into the little gallery of Rembrandt Peale, the painter, but not to see the pictures. They wanted to witness a miracle: lights burning without oil, tallow, wick or smoke. Within ten years gas lamps lighted lower Broadway in New York, and the lamplighter, going along the streets with his torch at dusk, gradually became a familiar figure.

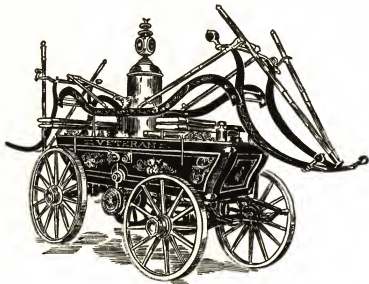
Phosphorus matches were introduced in 1836 by a former shoemaker named Phillips who when working in a powder mill in East Hartford, Connecticut, had conceived the idea of igniting a compound by friction.

Although this was a great advance in the art of fire making, methods of fighting fire remained about as they had been when George Washington was a member of the Alexandria fire company. Members of fire companies, all volunteers, were more interested in the social prestige attaching to their position than in extinguishing the blaze. Rivalry between companies was so intense that they resorted to all kinds of tricks to prevent each other from getting the credit. Meanwhile houses went up in smoke. It was not uncommon to see gentlemen in high beaver hats, long tail coats and ruffled shirts working mightily over a recalcitrant pump.

But honest sweat was frequently hard put to it to produce a thin trickle of water. Even in a great city like New York, before the Croton Aqueduct was built after the great fire of 1835, people got their water from old rain barrels or common pumps or bought it, for drinking purposes, from peddlers for a penny a glass. To prevent the spread of fires, cages atop four poles were placed in different parts of the city from which watchmen would give the alarm by striking a large bell.

The first steam fire engine made its appearance in Philadelphia in 1824, but not until eight years later were horses used to draw it. In 1850 volunteers began to be replaced by paid and uniformed firemen.

Few cities had anything like adequate police protection. In New York, which had already surpassed Philadelphia and Baltimore in size, the safety of some 200,000 people lay in the hands of some two score ragamuffins carrying feeble nightsticks and whale-oil lanterns which were later replaced by torches. As they cried out the hours at the corner of the street, they would add: "It is a cold and rainy morning" or some other description of the



A FIRE ENGINE OF THE 1850's

Built in 1851 for one of the companies of the New York City Volunteer Fire Department, the Bix Six, or "Americus VI" was considered the most powerful and efficient fire engine in the country. The name "Veteran" may have been added later in honor of its distinguished career. It was a double-decker, with decorations which included a tiger head, since adopted as the emblem of Tammany Hall, and the roster of its firemen included many prominent citizens. Among them was "Boss" Tweed. After rounding out a decade of fighting fires, it was replaced by a steamer.

weather. They too were proud of their authority and as free Americans resisted for a long time the introduction of uniforms.

As the country's population increased, other problems arose. In 1839 a man who had never been to school for more than ten weeks a year until he was fifteen, opened the first normal school in the country with three students in attendance. Thus, in the town of Lexington, Massachusetts, where the first shot was fired in the cause of American independence, did Horace Mann help lay the foundation for a revolution in education. For years he had been advocating the professional training of teachers, the establishment of a central authority to set up standards in education, and an organization to collect and disseminate information. Later, on a trip abroad, he took a leaf from the

doctrines of Pestalozzi and von Humboldt, and on his return issued a report which aroused violent antagonism. He insisted that children should be treated with more tolerance and understanding; they should be given greater freedom to choose subjects that interested them; music should be taught in public schools; spanking abolished. For this last plea if for no other his memory should be cherished by little boys and girls.

Older children, too, were given new opportunities. Over the protest of taxpayers who failed to see why they should be made to pay for the education of other people's children beyond the elementary grades, high schools were opened in Boston, Philadelphia, and New York. Colleges were far more exacting then than now. A student entering Brown University in 1833 would have to scale the precarious crags of this dizzy mountain of knowledge:

*First Year*

Classics  
Algebra  
Geometry

*Second Year*

Classics  
Algebra  
Geometry  
English Grammar  
Surveying  
Navigation  
Nautical Astronomy  
Trigonometry

*Third Year*

Mathematics  
Natural Philosophy  
Chemistry  
Physiology

*Fourth Year*

Moral Philosophy  
Astronomy  
Psychology  
Greek  
Analogy  
Geology  
Christianity  
American Constitution

If ambitious, he could take German, French and Hebrew, and pay extra.

Women's education was still scoffed at. "Female Seminaries"—where needlework, drawing, painting, embroidery and music were taught in addition to the ordinary subjects—formed a link between elementary school and college. Diplomas were freely bestowed, but the pupils—as contemporaries aver—were distinguished more for good looks than for intellect.



AN OLD-TIME BASEBALL PLAYER

A little more than a century ago, in 1839, a young civil engineer in Cooperstown, New York, designed the baseball diamond. Abner Doubleday also formulated the rules of the American national pastime which had evolved from "rounders," "barnball," and "one-old-cat." This comparatively "modern" pitcher is showing how to throw a straight fast one.

In contrast to the awakening in education, it was the darkness before dawn in medicine. Despite the existence of a few small medical schools in the seventeenth century, the accepted way to become a doctor still was to take an apprenticeship with some older practitioner. "Bleeding" and "cupping" patients was the universal cure. After mastering the technique of grinding a powder, dressing a wound, exciting the kidneys and cleansing the system with sulphur and molasses, the disciple of Aesculapius would settle down in his home town and start practicing. He was not bothered by problems of sanitation, hygiene, microorganisms and antiseptics, and was satisfied with playing nurse, druggist, surgeon, dentist and veterinary in turn. Nor did he mind the barber, the grocer and the "wise woman" transgressing on his domain.

In 1846, at New Haven, Connecticut, an interested spectator at a pseudo-



scientific half-lecture, half-vaudeville exhibition of the type popular in those days was a dentist named Horace Wells. Seeing a man stagger drunkenly about the stage under the influence of nitrous oxide, bumping against chairs without showing any pain, gave him an idea. He tried the gas on himself when having one of his own teeth pulled. The result encouraged him to tell other doctors and within a short time "anaesthesia," as Oliver Wendell Holmes named it, was being used for surgical operations.

The concentration of people in cities stimulated interest in sport. Rowing became popular after a race in 1811 when the barge *Invincible* of Long Island won a sweeping victory over the barge *Knickerbocker* of New York. In 1837 a race between six-oared shells took place at Poughkeepsie and fifteen years later the first Harvard eight defeated Yale. Spectators bet heavily on races of all sorts. So did the athletes themselves. In 1835 John Stannard ran ten miles in 59 minutes, 44 seconds on the Union Course on Long Island, and won \$1,000. Baseball, which grew out of "One Old Cat," was played with three bases. The New York Yacht Club was founded in 1844 and seven years later the schooner *America* won the Royal Squadron Regatta in England. The cup she brought home, later known as the "America's Cup," became the most coveted trophy in international yachting.

Up to the time of the Civil War, the theater was unappreciated. Men, especially in the West, treated it as they would a bar, coming in without their coats and with shirt sleeves rolled up. They would sink back in their chairs with their heels in the air. Some sat on the backs of chairs while others stretched out full-length on benches. Spitting was incessant and the smell of onions and whisky furnished a strange accompaniment to Shakespeare. Sniffing and chewing were among the less unpleasant noises. At slight provocation the whole audience would roar their way through "Yankee Doodle."

Although most people preferred museums of stuffed birds, waxworks, the trained flea and the Adam and Eve tableau, the comparatively few devotees of the drama were little short of fanatical. In 1849, a fight broke out in New York between the partisans of Edwin Forrest and William Charles Macready, both of whom were playing *Macbeth*, which was delightedly joined in by throngs of intoxicated Fenians, beachcombers from the water front, and members of such well-known gangs as the "Bowery Boys" and the "Dead Rabbits." Thirty-four persons were killed and over two hundred wounded. Nevertheless, such frays were not infrequent. In 1857 occurred one which reached epic proportions. It spread all over New York's lower East Side and did not stop until six regiments of militia had taken a hand.



## CHAPTER XI

### THE WESTWARD MOVEMENT

#### I. CATTLE

##### INTRODUCTORY

OF THOSE who created for themselves a typically American way of life, the cowboy deserves a special niche. He was probably the most picturesque and unusual figure in this country in the last half of the nineteenth century. Independence and courage came naturally to him. The highest praise



THE LONGHORN STEER

From Andalusia, with the first Spanish colonists, came the longhorn steer which was to loom so large in the annals of the West. In the middle of the last century, great herds numbering tens of thousands were driven up from the Rio Grande to meet the railroad as it pushed ever deeper into the prairie country.

one cowboy could give another was to admit that "he'd do to ride the river with," for getting a herd of cattle across a river meant risking one's life.

Courage was necessary, for the cowboy had his enemies: the horse thief; the homesteader; the sheepherder. No man was more despicable, more deserving of being hanged to the nearest cottonwood, than the man who stole horses, for a cowboy without a horse was at the mercy of the Indian. The nester, or homesteader, was hated too, because he brought the fences that spelled the death of the open range. As for the sheepherders—well, the sheep

nibbled the grass down to the ground, and their sharp little hooves dug down to the roots, ruining the grazing land.

The cattle men looked upon the sheep men as intruders. They drew imaginary boundaries which the sheep were not to cross, but the sheepherders paid no attention. Then the cowboys put saltpeter, fatal to sheep but not to cattle, where the sheep would eat it and die. They raided the camps, scattered and killed the sheep, and drove out the herders. But, like the nesters, the sheepherders finally came into their own.

The heyday of cattle raising began right after the Civil War. Between 1866 and 1884—after which the homesteaders' fences doomed the range—more than five million head of cattle were driven north from Texas.

The hero as well as the villain of the piece is the long-horned Texas steer brought to this country by the earliest explorers from Spain. He has been described as "a light, wiry, long-legged, angular creature, active and wild as a coyote," able to live on the range the year round, through summer heat and winter snow.

## HOUSES

The home of the cowboy was simple in the extreme. The ranch buildings comprised the ranch house, where the owner lived, the bunk house for the cowpunchers, a barn, a shed, and a few corrals.

The latter were round and sturdily fenced, with rails and posts tied together with green rawhide strips which as they dried contracted and became extremely strong. One never knew when a wild horse might dash himself against the fence in an attempt to get free, or a small herd of cattle shove against it with their combined strength.

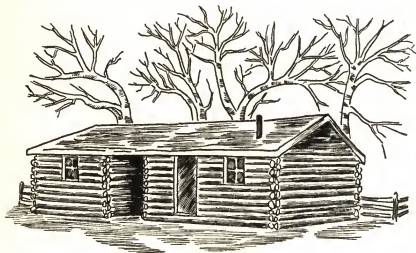
However, the cowboy had a second home; it consisted of two or three wagons making up the roundup camp. The chuck wagon, in the words of Will James, was

"... all covered with dried, smoked, and salted victuals, sacks of beans and flour, and sometimes sugar. At the back of the wagon is a high box with supposed-to-be-dustproof partitions for all the utensils. That chuck box also holds lick—syrup—and all the main things to sort of season the grub with; and then there's one or two drawers that holds a few old cinch buckles, spare buttons, a spur without a mate, and all sorts of things a feller might need some time. As a rule, all them things should be in the jockey box that's on the side of the wagon, and where the axle grease and such is kept, but as the boxes usually get filled up too soon, another safe place has got to be found.

"Close to the chuck box is a penned-in place where many pots, big dutch ovens, the round-up-pan pot hooks and all rub sides; then ahead of that is the heavy stuff in sacks and barrels, and all wrapped in a big

canvas is the staff of life, the carcass of a beef. The cook's private bed roll rides on top. . . .

"Following the chuck wagon comes the bed wagon . . . loaded high with fifteen or twenty rolls of tarpaulin-covered blankets and soogans. . . . In that same wagon is a couple of bales of whale line—lasso rope—which some outfits are good enough to furnish their riders with; then there's picket ropes for the night horses, and the rope cable which is used for the round-up corral for the saddle horses. At the bottom of



HOME ON THE RANGE

The rancher's house or bungalow was located to take advantage of every inch of shade and every drop of water. It was often comfortably furnished. But to the cowpuncher, whose bunkhouse was usually crude in the extreme, "home" was more likely to mean the lone prairie, with the starry sky for a roof.

that wagon can also be found a couple of sets of crutches for the boys that's layed up with a broken leg or ankle."

A good roundup cook was hard to find and hard to keep, and if one took it into his mind to quit fifty miles from any possible source of replacement the whole camp would be disorganized. He was treated as the most valuable man in the outfit, and abused his position by being perennially cranky. Any man who didn't put his dirty dishes in the right place came in for a mighty tongue lashing. Any man who wouldn't get wood or water for the cook, just didn't know his place, and soon found himself looking for another one.

Bread, baked in the Dutch oven, fried beef, boiled beans and coffee, made up the standard meal, with pie for dessert at dinner. When times were hard there was little else to eat, but when times were good, dried fruit, canned fruit, and pickles might be added for variety's sake.

Though the food was plain there had to be plenty of it. A score of men coming in after sixteen hours' rounding up and branding cattle were in a mood to eat their fill, particularly as dinner was the only meal they could spend any time over. At breakfast, which took place at dawn, and at lunch, it was a case of eat and run. When there was work to be done, a cowboy could unsaddle his horse, eat, rope and saddle a fresh pony, and be off to work again in fifteen minutes.

## CLOTHES

The movies have taught us to think of the cowboy costume as gaudy and flamboyant. And this was true enough when he got dressed up for a spree, but on the range he abhorred the fancy. Everything about him, from his ten-gallon hat to his high-heeled boots, served a purpose.

His shirt was of cotton or soft wool, without a collar. Over this he wore an unbuttoned vest, whose pockets were a storehouse for tobacco and "cigareet" papers.

Rejecting blue denim, for the reason that all farmers wore it, many a cowboy, especially on the West Coast, wore ordinary woolen trousers. Over them, when riding, he wore "chaps"—from the Mexican *chaparejos*. Orig-



A COWBOY'S BOOT

Tight-fitting, high-heeled boots of the finest black leather marked the cowboy, and he chose them with the same care expended on his hat and his saddle. Fancy stitching, not infrequently in red, decorated the sides, with an inlay of different-colored leather showing in front, beneath the top.

inating, as we saw in the Spanish chapter, from two hides hanging down on either side from the pommel of the saddle to protect the knees from getting scratched in the chaparral, they roughly resembled two trouser legs fastened

around the waist with a belt which buckled in back. There were chaps for every taste: of plain leather, of stamped leather, and of leather either wholly of fur or with fringes of fur left on the outside seams.

Particularly proud was the cowboy of his boots. To be able to buy a good pair he would save his money for months. And when the great day dawned when there was a sufficiency of funds, he would draw the outline of his foot on a piece of paper and send it away to his favorite bootmaker.



A GINGHAM BONNET

In many parts of the country, the gingham bonnet was—and in some parts still is—more familiar than beribboned straw or garden hats. Perhaps the first thing that struck the eye of the returning rancher or farmer was this demure bonnet as his wife bent over the hoe in the cabbage patch or watered the hollyhocks.

A few months later the boots would arrive, of the finest leather, hand-sewn to a nice fit, and often handsomely decorated. They were narrow and close-fitting in the foot, so that the foot could slip easily into the stirrup, and high in the heel so that the foot wouldn't slip through the stirrup. High heels were particularly designed to brace the wearer when roping on foot in a corral.

With the boots went large, ornate, cruel-looking spurs. Usually, however, the first thing the cowboy did was to file the sharp edges off the rowels. No cowboy liked to cut his horse up, no matter how invaluable the spurs might be in making it do what he wanted.

In cold weather buckskin gloves were worn, and also for roping. Some cowboys were never without them as a kind of caste mark, indicating that they were such good riders and ropers as to be spared from the menial tasks of chopping wood and fetching water. Like the boots of the best leather, the

gloves had long, wide gauntlets which were often embroidered with an eagle or the Texas star. In addition, decorated leather cuffs were worn over the shirt sleeves to protect the wrists.

Around his neck the cowboy wore a kerchief, and it was usually red, because red and white were the only colors the storekeepers carried, and white not only got dirty quickly, but might attract the attention of a vagrant animal, not to mention an Indian or a horse thief the puncher might be trailing. In a cloud of dust, the kerchiefs could be pulled up over the nose to serve as a protective mask.



A COWBOY OF THE 1890's

This cowboy probably came from the Northwest rather than the Southwest, since the crown of his Stetson is not left at its full height, as in a sombrero. He is wearing the useful bandanna, a loose canvas or leather jacket, and fringed leather chaps.

The ten-gallon hat was as important to a cowboy as his boots. Costing from fifteen dollars to fifty, it was of fine felt, gray, black or light brown in color, with a belt for a hatband, and a thong hanging down on each side for tying the hat on in windy weather. In the South it was worn dented at the sides near the top, so that it rose to a peak seven or eight inches high, but in the North it was worn with a circular crease around the crown, so that it was flat on top and only a few inches high. A Northerner who wore his hat at its full height was accused of affectation.

Besides providing almost as much shade as a young cottonwood, the hat could be used in somewhat the same way as a matador uses his cape. Waved, it would turn a skittish pony; thrown at an angry cow coming to the rescue of her calf as it was being branded, it would deflect her from her course. A green horse which didn't even feel the pull of the reins could be turned with a wave of the hat before his eyes. The cowboy never left off this combined tool and



THE RANGE SADDLE

Proud of his saddle was the cowboy, and upon it the most elaborate decorations were lavished. But the size of the "skirt" was not merely to provide space for stamped patterns, it gave an unusually firm grip on the horse's back. Range saddles were subjected to many unusual strains besides those involved in roping. Some cowboys were "light riders," and never out of balance; others "rode heavy" and had to correct their position with twists and jerks.

headpiece from the time he got up in the morning until he dropped into his bunk at night.

His saddle was as much a part of him as his clothes. It was the last thing he would part with. A cowboy might escape from a poker game minus horse, gun, chaps, and shirt, but, as Philip Rollins puts it, "with saddle on his back . . . strike out for the ranch still thoroughly cheerful." The man who had to sell something to keep himself alive sold everything else first. The phrase, "He sold his saddle," meant that he was down and out.

The Western saddle is of ancient lineage. The Moors brought it to Spain; the Spanish, to Mexico. The cowboys of Texas took it over from the Mexicans. It is a heavy broad saddle, with a cantle high enough to keep the rider from sliding down his horse's tail, when the horse sat on his haunches to brace



himself against the pull of the cow on the other end of the rope. The horn, to which the rope was fastened, also had to be high. The stirrups usually had *tapaderos* or leather covers around the front and sides of the stirrup, to keep brush from getting wedged into it.

And finally, we come to the rope itself, also known as lariat, lasso, riata, or "clothesline." It was made of rawhide, sisal, or hemp, and might be any length up to sixty or seventy feet. Besides its main uses for roping cattle and horses, the lariat served to pull animals out of bogs, or to help haul a wagon up a steep slope. Every cowpuncher could handle a rope, of course, but the skillful practiced for years. Such men got high wages.

In ordinary roping the cowboy came up on the left of the steer and hurled the loop over the animal's horns. The instant the loop went over the horn, he



AN EARLY "SIX-GUN"

The cowboy's favorite shooting iron was a heavy Colt forty-five; single-action, for surety's sake, and not shiny, as that might attract attention. He liked to carry it in a holster hanging loosely on the front of the thigh.

This six-shooter dates from early days.

circled at high speed around the rear of the animal. Having thus brought the bight of the lariat around the hind legs of the steer, he galloped forward. Out went the steer's legs from under, and he was ready to be tied.

Another way, easier on the steer, was for the cowboy to ride as close to it as possible, and to drop the loop over its withers so that the rope almost trailed to the ground on the right side. As soon as the steer had stepped into it, the pony turned away and the steer came to the ground.

Ponies, too, had to be clever. When the steer fell, the horse drew back on his haunches and faced the fallen animal. A smart cow pony could be counted on to keep the steer in front of him, so that the steer couldn't pull him over. He could also be counted on to keep the rope taut while his rider dismounted and hog-tied the steer.

The role of the six-shooter in the life of the cowboy has been exaggerated. It was mostly the killers and the bad men who raised the death rate, but in a land so far removed from the due processes of law, it was natural for the ranchers to take justice into their own hands on occasion. Cattle and horse thieves received short shrift, and Indians off the reservation were not always welcomed. And the six-shooter was always useful against the animals on the

range who threatened cows: wolves, coyotes, bears, mountain lions—and "locoed," or maddened, cows, steers, and horses, which would attack both animals and men.

The possibility of settling arguments with the six-shooter, led to an elaborate code of politeness. Even today the true Westerner avoids giving or taking offense. The cowboy was never so rash as to finger his gun or reach for it unless he meant business, for the gesture gave his adversary the right to draw and shoot in self-defense. When he did mean business, he didn't waste a second. He drew and fired.

Out on the range, three shots in regular succession meant serious trouble. As a result, the sound of one shot brought everyone up listening for the signal.

"Shooting up the town," and making a tenderfoot dance by shooting up the ground around his feet, were escapades infrequently indulged in. And when they were, they were more good-natured than dangerous.

The life of the range was everything to the cowboy. The pony was his only means of transportation; the raising of cattle, the only industry.

The first roundup of the year came about May, depending on the weather. The wagons moved wherever on the range the camp was to be set up; the cattle were rounded up; and the new calves thrown and tied, branded, and then released.



VARIOUS BRANDS

Brands were carefully registered with state officials. A "running brand" was seared on the hide, using the red-hot iron as a pencil. Brands could also be stamped on.

When rustlers stole branded cattle, they would try to change the old brand into a new one by means of an additional stroke or two of the branding iron. To outward appearances they were often successful, but when the animal was killed and skinned the additions clearly showed on the inside of the hide. One rustler changed the owner's original brand of "I C" into "I C U." The owner was nobody's fool. He registered a new brand, and rebranded his cattle. The

new brand was "I C U."

The extra saddle horses, known as "remuda" from the Spanish "remonta" were an important part of every roundup. A good "cutting horse" had to be trained with extreme care. His job it was, under his rider's direction, to single out one animal and get him out of the herd, preventing him from turning in any direction except that in which the rider wanted him to go. This was against the "critter's" instinct, which was to stay with the herd no matter what happened. And it had to be done without exciting the rest of the cattle. A good cutting horse could turn on a quarter and give you back fifteen cents in change, or "turn on a biscuit and never cut the crust." To be a night horse required even more intelligence. Sure-footed, able to see in the dark, the night horse had to circle round and round the herd, often without benefit of guidance from the tired, dozing cowboy, edging back into the herd any laggard or stray.



A COW PONY

Like human beings, different ponies were good for different tasks. A fast one might be good for cutting in and out; another, slower, for roping or perhaps for traveling long distances. Consequently, a first-class cow-puncher might have several ponies for different types of work, not to mention a plain, ordinary "cayuse" for common errands and chores.

When not dozing the rider crooned to his cattle in order to lull them. Sometimes he would use a string of colorful swear words; at others he would recite by heart the various labels of canned foods to be found on the ranch; sometimes he would recount some incident such as a horse race. But no matter how violent the sense of the words, they would always flow gently into the night in a soothing singsong.

Night herding was no joke. Although a day stampede was bad enough, few

things were as dreaded as a stampede at night. Often when morning came, and the herd had been gathered together, the cowboys rode out with a shovel to dig a lonely grave for some comrade who, trying to turn a bunch of cattle, had ended up at the bottom of a ravine with the herd on top of him.

When a stampede started there could be no dawdling. The men galloped alongside the running herd, beside and ahead of it, waving coats and blankets, yelling and shooting their pistols in an effort to turn back the leaders. Then the cattle would begin to mill. They milled until sheer fatigue caused them to stop. After that they would start to graze, and the stampede was over. A rider caught in the turmoil worked his way out as best he might. If his horse went down it was all over for him.

When the spring cattle roundup was over, it was the turn of the horses, and the colts were branded. After the roundup, most of the horses were turned loose, but some were kept at the ranch to be broken, and eventually became part of the "remuda."

The slow way of breaking a bronco, or wild horse, was to rope him, and get the rope looped around the snubbing post. The horse would run out to the end of the rope and throw himself. When he finally learned that there was no use in trying to get away, he was made acquainted with the saddle blanket. After that he was saddled, and left to plunge and rear until he found he couldn't get rid of the saddle either.

The quick way was to saddle the bronco in a hurry, mount, and hope for the best. Sometimes another cowboy acting as a "hazer" helped by holding on to the bronco's ears—sometimes with his teeth—to distract his attention while the saddle was being put on. If the cowboy were alone he would distract the horse by sticking his finger in the beast's eye.

Bronchos who reared up on their hind legs were known as "cloud hunters." The feet of the "weaver" never struck the ground in a straight line. The "pioneer buckler"—so-called because he was always seeking new territory—was supposed to buck in circles and figure eights. "Sunfishing" was a term used when a horse twisted his body into a crescent with its tips alternately to the right and to the left. He seemed to be trying to touch the ground first with one shoulder and then the other. In "swapping ends" or "windmilling" the bronc made a complete half-circle in the air. When the bronc came down hard on his front legs and then his hind legs, it was "walkin' beamin'," or "pump-handle" bucking. A "pile-driver" would hump his back and come down with all four legs as stiff as ramrods. A "blind buckler" would go through anything—thorny bushes, rivers, corral fences, and even trees wouldn't stop him.

Riding the line involved checking up on where the herds were grazing, how the water supply was holding out, and whether there were traces of rustlers or predatory animals. Outriders did much the same thing but they wandered around, while the line riders had a definite territory to cover.

The roundups over, the trailing started. The first day the cattle were driven,

but after they had become accustomed to the trail, they simply grazed their way to market. The trail boss rode ahead looking for water. But too much water was as dangerous as too little. Each year the rivers took their toll of lives, and the worst of them was the Cimarron with its quicksands. A floating log, an unexpected wave, would start the cattle milling in the middle of the river. There was nothing for the cowboys to do but plunge into the river on their horses, and try to get the cattle headed for the opposite shore.

When November comes the ranch begins to settle down for the winter. Cowboys hired for the season saddle up and "ride the grub line" from ranch to ranch, looking for another job, or settling down to trap bobcats and coyotes. The line riders, who often lived in small outlying cabins, had a hard time in sub-zero weather. One of the greatest dangers was that the cattle might drift.



#### SPURS, WESTERN STYLE

These spurs were fully as much help in sticking on a broncho as in urging on a trained pony. Mexican spurs with wheels as large as two-and-a-half inches in diameter were common in the Southwest, but the rowels were usually filed down.

In a blizzard they would start moving along with the wind, never stopping, never turning back, until they dropped and froze where they lay. About all the line riders could do was to ride along with the drift, waiting for a lessening of the storm and a chance to turn the animals back.

The men who led this hard life suffered from frequent injuries and ailments—the most common being broken bones, rope burns, cuts from sharp hooves, and boils. A serious injury meant a hundred-mile trip to the hospital, but minor disabilities received home treatment of a drastic simplicity. A bad cut was smeared with axle grease. A boil might have a plug of tobacco tied over it. All kinds of patent medicines and even unlabelled and unidentifiable pills were taken on some such recommendation as "I disremember just what they is, but they done me a powerful lot of good oncet. Take 'em and try 'em."

#### LIFE IN THE COMMUNITY

When word went round that a dance was to be given in the neighborhood, that meant anywhere within riding distance. A cowboy thought nothing of

riding sixty miles for an evening's fun or two hundred for a celebration lasting two or three days. People were not asked individually; anyone who heard tell of a dance was automatically invited.

Like as not the evening started off with a barbecue. When that was over furniture was pushed aside, the fiddles started tuning up and the dance was on. Well fortified with whisky, the orchestra never seemed to tire.

As there were seldom enough women to provide every man with a partner, some of the men were "heifer branded." Handkerchiefs were tied on their arms, which meant that they would dance "lady fashion." There was a "caller" who called the steps in rhyme. If he happened to have forgotten the right words, he made up his own.



A TARANTULA

One way the isolated cowpunchers could provide a little excitement for themselves was by staging a duel between two of these huge, venomous spiders, or a battle to the death between a rattler and a king snake. The king snake usually won.

On the ranch it was always possible to arrange a snake fight or a tarantula fight. King snakes were kept around the house to keep the rattlers out, so all you had to do was find a rattler, perhaps under the bottom rail of the corral fence. Once the king snake saw the rattler the fight was on.

Horse races were popular. Not infrequently the cowboys were taken in by a stranger who allowed himself to be persuaded to race his horse against one of the ranch horses, with the result that the loyal cowboys lost more than they could afford.

But what gave the cowboy the most amusement of all was to tease the visiting tenderfoot—also variously known as a "pilgrim," a "greener," a "juniper" or a "short-horn." The visitor from the East listened with amazement, and with all complete credulity, to the cowboy's most bloodcurdling tales. Some broken-spirited old nag would be described as a raging mustang. And he was led to believe in the existence of the "wouser"—a figment of the cowboy's imagination which combined the most horrific qualities of the bear, the wolf, and the mountain lion.

Sometimes the cowboy would tell a long involved story, the final sentence of which was the same as the one with which he had begun. Before the unsuspecting tenderfoot caught on he would be halfway through the same story

for the second time. Then a roar of laughter would go up from the rest of the company, who, since the trick was familiar to them, had all been feigning intense interest.

Another mystification which the cowboys hugely enjoyed, was to shift suddenly from an impassioned account of a bucking contest or an Indian fight, into a recitation of the label on some familiar can. All those present except the astonished tenderfoot, as Rollins puts it, "would gaze at the ceiling and swing into a full-throated chorus beginning with 'Condensed milk is prepared from,' or . . . 'Of peaches this can contains,' etc.," and continue for some minutes. Once the recitation was over, without any explanation whatever the original conversation would be resumed at the exact point where it had been broken off.

When there were no tenderfoots around, the cowboy's favorite pastime was an interminable discussion of the various qualities of his horse, and of the defects of some other man's. The same arguments might be heard between the same men, night after night, week after week.

Even the picturesque ballads which he liked to sing were addressed quite as frequently to his mount as to his sweetheart. Others, because of the loneliness of life on the prairie, and the accidents which may befall those who lead a dangerous life, tended to revolve around the melancholy subject of death.

So, arguing and singing by his campfire on the trail at the close of day, with his horse near by, and the cattle grazing quietly in the darkness, we shall take leave of the cowboy.

Inside, he is the same man today that he was before. But the passage of years and the progress of civilization have forced changes upon him. The trail has disappeared. The range is fenced. Once distant towns have grown into cities but a short distance away by car, and the Texas longhorn is only a memory.



## THE WESTWARD MOVEMENT

## 2. GOLD

## INTRODUCTORY

**P**USHING north of the frontiers of New Spain into what is now the United States in their search for gold, the conquistadors were disappointed. So were the English colonizers of Virginia. The gold was there, nevertheless. But it was a continent's breadth away, on the other side of the hemisphere, and was not destined to be found until a quarter of a millennium later.

When gold was finally discovered in California, its effect was far reaching. Tens of thousands of persons were attracted to the West, and the frontier unrolled itself to the shores of the Pacific. The hoof prints of their oxen and mules marked out the route of future transcontinental highways.

The gold they dug out of the ground saved the nation from dire economic distress. The country was full of paper money, and the finances of the nation were highly unstable. During the Civil War, California gold enabled the Union government to supply its soldiers with food and clothing. And the uninterrupted flow of the yellow metal doubled the wealth of the nation within twenty years.

As the West developed, railroads crossed the continent, opening up great stretches of the interior. Huge deposits of other metals—silver, copper, lead—were unearthed. The country entered an age of metal, making possible undreamed-of industrial expansion.

## HOUSES AND FURNITURE

The original village of Yerba Buena, which was to grow into the city of San Francisco, boasted only shacks and adobe houses, which were seldom higher than one story, perhaps on account of the danger of earthquakes. In them lived the first American settlers. The forty-niners camped in tents; open, canvas-roofed shelters; shacks roofed with canvas or calico; and it was a lucky man who could find himself a hut thatched with bulrushes, such as the Indians used. The thousands of tents and packing-case shacks arranged helter-skelter gave the town the look of an encampment, and at night, with the oil lamps shining through their canvas sides, the tents looked like huge glowworms.

When the rainy season came, the cloth roofs had to be replaced with wood,



and soon frame houses were being shipped by water from the East in sections. And rain played havoc with the streets. They became channels of mud, churned up by thousands of boots; by horses' hoofs; by the wheels of drays. Goods were left lying anywhere in the streets, and thousands of dollars' worth were destroyed. In Sacramento's first school the children often had to sit on the tops of their desks, since the floor was covered with water. In the flood of 1861, Governor Stanford returned to Sacramento from his inauguration to find the piano floating about his living room; he had to fasten it to the banisters of the staircase to keep it from banging against the walls.

An even greater danger to the flimsy houses was fire. In a year and a half the city was burned down six times, and in the fire of 1851 two thousand



HOTEL DE LUXE

In the days of '49, a building like this was considered impressive. In the first place, it boasted a second story; in the second place, no canvas figured in its architecture. Here the miner would go with his little sack of gold dust if he required lodging, but more likely to slake his thirst, and tempt fortune at *faro* and *monte*.

buildings were destroyed in ten hours; the glare could be seen at Monterey, a hundred miles away.

But neither rain nor fire could prevent the magical growth of the city. On what had been an open lot only twenty-four hours before, there might now be a complete house, with a family inside it. An unobstructed view of the bay might in three days be blocked by a row of shops.

In the mining towns, houses were even more primitive. Dame Shirley, whose letters have become a classic, lived in a shack twenty feet square, lined on the top with strips of white cotton cloth only partly sewn together, so that one could see the shingles of the roof above. A chintz curtain divided the room into two parts. Fireplace and chimney were made of stones and mud, and the mantel was a wooden beam covered with strips from tin cans. A couple of smooth stones served as andirons. In place of glass, cotton cloth

and blankets were tacked over the windows. The door, which did not boast a latch, was made of canvas.

The old Empire Hotel in Rich Bar has also been immortalized in Dame Shirley's letters. Almost every other shanty in town called itself a hotel, too, but the Empire was the only building with a habitable second story, and it even boasted a few glass windows. It was built of rough planks, the roof and the entire front—on which "THE EMPIRE" was painted in large capitals—being of canvas. The whole length of the bar was decorated with red calico, the universal material in California at this time. There was a "really elegant" mirror; a line of humidors and fruit jars; a table with a green baize cloth with a pack of cheap yellow-backed books on it; and some rough benches. The other half of the saloon where the bar was also served as a shop, and contained an ill-assorted pile of clothing and groceries; oysters, hams, and preserved meats; velveteen and leather; flannel and stiffly starched calico shirts. The parlor next door had a red calico sofa, fourteen feet long and only a foot and a half wide, and calico curtains. When Dame Shirley saw it, there was a baby on the sofa, and the baby too was dressed in red calico. The tiny bedrooms upstairs had straw matting on the floor, little oilcloth-covered tables, and bedsteads heavy and strong enough for a giant to sleep in. The doors were light frame, covered with dark blue drilling, hung on leather hinges.

### CLOTHES

The typical miner wore a red or blue woolen or flannel shirt, and pantaloons of strong material, tucked into the tops of his heavy boots. In the leg of the right boot—boot flaps were usually turned down—he often carried a bowie knife, and a revolver or pistol was seldom absent from his belt. Hair and beard were allowed to grow long. The usual head piece was a low-crowned, broad-brimmed slouchy black felt hat. But miners wore all kinds, including panamas they had picked up crossing the Isthmus, and even high hats, including the old-fashioned white beaver. One old gentleman used to carry on his mining operations in a tall stovepipe hat and a long flapping overcoat which came to the toes of his rubber boots.

There were Mexicans in cream-colored sombreros, with gay serapes flung over the left shoulder; Frenchmen dressed in the latest Paris fashion; professional gamblers with gleaming starched shirt fronts in which flashed large diamond solitaires. Not all the "dandies" were occidentals. Here and there might be seen a Chinese in a sky-blue or purple figured silk jacket and tight yellow satin trousers. His beautifully plaited pigtail reached from his scarlet skullcap with a gold knot on top of it to the black satin shoes with their thick white soles and white garters.

The ordinary Chinese wore a shapeless blue jacket, baggy pants, and a huge wickerwork cone-shaped hat or extinguisher. On his way to the mines

he carried across his shoulders a bamboo pole, from either end of which hung a hodgepodge of tools, baskets, boots, and other articles whose use only a Chinese could imagine.

The Frenchmen who went through the town by battalions on their way to the mines were known as *l'ingots*, because they had won their passage to America in the great French lottery of the "Golden Ingot." And they must



#### THE COSTUME OF THE MINER

Most miners wore clothes that were greasy and old; snuffy-brown pantaloons of woolly homemade fabric; and felt hats of a dirty brown. Some miners, however, were fops, with a taste for carmine shirts, red-topped boots, silver-handled bowie knives, and sashes of rich silk.

have been a sight for sore eyes. Each one carried a knapsack, shovel, pick, tin wash bowl, pistol, knife, and even a sword and double-barreled shotgun. Over his shoulder was slung a blanket, and around his middle, among other things, a tin can, frying pan, coffee pot, and sometimes, for good measure, a short-handled ax and an extra pair of boots.

A linen shirt with a turned-down Byron collar and a hand-tucked bosom might, when times were reasonable, cost seventy-five cents. It was cheaper to throw the shirt away than to have it washed, since that would cost fifty cents. Outside one store there was a pile of soiled shirts as high as the second-story window, hurled there by clients who had skipped upstairs to

change into their new acquisitions. Old-timers swear it was actually cheaper to send shirts to China or Honolulu to be laundered than to have it done on the spot.



THE GARB OF THE GAMBLER

Professional gamblers, far from trying to conceal themselves, liked to attract notice by the splendor of their garb: checkered pantaloons, fancy waistcoats, long coats, heavy with dignity, and broad-brimmed black hats. Often a diamond solitaire flashed in the ruffled or stiffly-starched shirt front.

## FOOD

What did the forty-niners eat? Jerked beef and fresh beef when they could get it; ordinarily they went in heavily for anything made of flour; flapjacks, griddle cakes, short cakes, and Spanish *atole*, washed down with plenty of coffee. They had a fondness for raw onions, sometimes sliced in vinegar to make them more tasty. Vegetables were rare. In winter there was a scarcity of fresh meat, and they were forced to get along on hams, pork, sardines, canned oysters, and unprepossessing mackerel preserved in black salt.

That they did not always fare badly is demonstrated by the menu of a banquet in a mining town hotel, prepared, Dame Shirley tells us, by Ned, the violin-playing mulatto cook:





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### THE MINER'S COAT OF ARMS

The everyday things with which the forty-niner was most familiar are depicted in this old lithograph. Outside of digging and washing gold, his chief preoccupations seem to have been gambling, shooting, and dealing with insects and rodents.

Oyster Soup  
Salmon Caught in the River  
Roast Beef and Boiled Ham  
Fried Oysters  
Potatoes and Onions  
Mince Pie and Pudding  
Madera, Nuts and Raisins  
Claret and Champagne  
Coffee

The miners paid as much for a barrel of flour, it was claimed, as a New England mechanic made in a year, and more champagne was consumed in San Francisco in the early seventies than in all the rest of the country. Tea cost a dollar an ounce, and onions sold at sixty-four dollars for a hundred pounds. A dram of grog cost a couple of dollars, and one man made seven thousand dollars the first week his saloon was open; he paid off the entire purchase price of his stock the very first day.

#### TRANSPORTATION

Outside of the miner's faithful mule—not to mention shanks' mare—the transportation used by the forty-niners in California is of less interest than the transportation they used to get there. Prior to the gold rush the overland route was not often used, because of the danger from Indians and the difficulty of crossing the mountains after winter had set in. In Sutter's day a few immigrants arrived on horseback and on foot after incredible difficulties. Not only did they have to fight off the Indians, but their hunger was so severe that it drove them to eat horses, mules, and finally the bodies of Indians they had slain. The desert trails were strewn with the bones of those who had died of starvation, thirst, disease, and exposure.

But after the discovery of gold, neither hardships nor the danger of Indians meant much to the hordes of restless adventurers pouring across the desert wastes. Before long there were thousands of wagons on the overland route. They were of the same type as the Conestoga wagon, but not so heavy, so that they would not be held up by the muddy parts of the prairies. Travelers tried to get the lightest model strong enough to carry twenty-five hundred pounds. Hauled by three or four oxen, these wagons made about fifteen miles a day; horses could not be used over such difficult territory. Mules, six to a wagon, could make the trip in about twenty days less time than the oxen. Parties composed exclusively of men could use pack mules and make the trip in a month less than the wagon train, but half a dozen mules cost about six hundred dollars, whereas five yoke of oxen cost only half that amount. Too, mules had a way of straying from the camp at night, and they could more easily be stolen by the Indians.

Wagon trains were often many a mile long. When they made camp at night they were "corralled"—a circle was formed inside in which the cattle could be put, and which served as a protection against attack by the Indians. The company—which was headed by a captain—was divided into sections, each with its wagon master; much jealousy and intrigue went on over these positions. Guard was mounted at night.

The time for "catching up" when the oxen were yoked and hitched to the wagons, was the most exciting moment of the day. The oxen would leap and run about to get away from the yoke, while the loud "whoa-haws" of the teamsters, and the bellowing of the loose stock added to the turmoil. But by nine o'clock the wagons were on the march.

When they came to a river, they would cut down cottonwoods and make dugouts. Two canoes held together by a cross frame carried the wheels of the wagon. Sometimes, however, the wagon was floated across.

The hazards of the long trek across the dry plains were so great, however, that many people preferred to come by water. The longest but safest way was around the Horn. A shorter, if more dangerous, way was to cross Mexico, Nicaragua, or Panama, and then sail up the coast. People took any kind of ship they could get, even if it were a derelict. Some dared to come in log canoes from Panama; those that were not blown back were drowned. Many were the fine clippers that went round the Horn to the Golden Gate. The Glidden & Williams Line from Boston to San Francisco advertised clipper ships sailing once a month; and called the attention of prospective passengers to the fact that these ships would leave on the day advertised, instead of spending from two to three months waiting for cargo, as other ships did.

The first steamer to make the trip was the *California*, which sailed from New York in October, 1848, with many persons aboard who were to become famous in California history. When the ship called at Panama, it was found that there were fifteen hundred miserable human beings there who had made their way across the Isthmus on foot, facing fever and starvation. Now they clamored to be taken on board. Although the ship had room for no more than a hundred and fifty in all, nearly four hundred were finally packed in so close they couldn't even walk.

The clipper ships, as time went on, brought more supplies than the prospectors needed, and sometimes when a ship put in with its cargo, the market was already so glutted that it didn't pay to unload her. And often the crew deserted in a body to the gold fields so that the ship couldn't sail away. At one time, in San Francisco Bay, there were five hundred of these deserted ships. Meanwhile, the cases of tobacco and barrels of beef that had been unloaded and left lying in the streets were shoved down into the mud and used as building foundations; or, with planks across them, as streets. Many of the abandoned ships were hauled up and grounded in the mud flats at low tide, and were used as storehouses, lodgings, saloons, shops, and counting



houses. Wharves and piers, and finally houses, grew right past them, cutting them off from deep water. These derelicts were full of enormous rats that descended on the town and fattened on the garbage left on the streets. A settler who had what was called a "water lot" often bought an old hulk and sank it on his land by way of staking his claim.

Most famous of the ships that were used as habitations was the *S.S. Niantic*. Piles were driven alongside to keep her from falling over; her masts



HOME FROM THE SEA

Ships used as storehouses and hotels earned more money than they could at sea. Rents were higher on board the *Niantic* than elsewhere, and for a long time she earned twenty thousand dollars a month. Not far away could be found the brig *Euphemia* which had been converted into a prison, so that convicts were literally "in the brig."

and rigging were dismantled; a shingled roof was built over the deck; the open hull was divided into warehouses, to which doors in the side of the ship gave access. The bulwarks were raised about eight feet, providing space for offices on the deck, which was surrounded by a balcony, with a veranda on top of it. Over one entrance was a painted sign: "REST for the Weary and Storage for Trunks."

## INDUSTRY

All the practicable mining methods of the gold rush days were simple ones. The Mexican miner would fill a batea, or wooden bowl, full of earth, and toss the dust into the air. The wind would blow away everything except the heavier particles, and after the operation had been repeated several times there might be some gold dust at the bottom of the basket.

The forty-niner went to work with pick, shovel, and iron bar and sometimes a knife. This was all he needed to dig out the alluvial soil. Then he had to wash the soil in an iron pan, although at first wooden bowls and Indian baskets were used. He would dig off one or two feet of the upper soil near a stream, then throw into his pan a shovelful of loose dirt and sand, and put the pan a couple of inches below the surface level of the water. While he kept stirring the dirt and throwing out stones, the water washed the light earth away leaving gravel and coarse sand. The pan was also rotated in the air. Then he examined the larger pebbles and threw away those which showed no trace of gold. In a short time, a spoonful of fine black sand might have collected at the bottom of the pan. This he dried in the sun on a handkerchief, and blew off the loose sand. What remained was gold.

A more efficient way to wash out the gold was by means of a rocker which was essentially an oblong box or cradle a little more than four feet long, with sides perhaps four inches high. A bar divided the box in the middle, and another box with a perforated sheet-iron bottom fitted into the upper half. It was known as a "hopper" or feed box.

Beneath the hopper a canvas apron sloped down to the upper end of the cradle, across the lower end of which was a riffle, or lining of wooden slats, nailed across the bottom to arrest the particles of gold. The cradle could be rocked by an upright handle nailed to the side. One man brought pay dirt from the river bank to the rocker; the other would work the rocker and pour in water.

In gulches, creeks, and rivers where there was a fall of water, a "sluice box" was used, consisting essentially of three long boards nailed together. A long line of these boxes was put on trestles. Part of the stream was diverted down the line of boxes. The "long Tom" was simply a sluice box with a "Tom" iron at the lower end.

Miners finding that some of the best places were underneath the hills, would dig tunnels, using only pick and shovel. This was known as "gophering." Sometimes they guessed right, but on the other hand a prospector might spend a couple of years burrowing his way into the side of a hill following a vein in the hope of finding a pay shoot, only to find that he had been mistaken.

Lucky was he who accidentally uncovered a "seam"—a ribbon of gold a few inches thick, a foot or more beneath the soil.

Ways of mining were legion, from those of the ever-optimistic "picker" who waited for a rainstorm before bothering to dig pay dirt out of the crevasses and gulches and loafed the rest of the time, to the elaborate machines that were "invented" in the East and shipped to the West by promoters who knew nothing about mining. Of one of these, whose carcass, weighing several tons, decorated a vacant lot, a reporter wrote: "A portion of the apparatus might be used for the churning of cream, or the making of

butter, or maybe a washing machine, but it would puzzle an expert mining engineer to say what the balance of the machine could be used for."

Sometimes gold would turn up when you were not looking for it. One man stooped to pick a stone out of the way of his mule, and found he was holding a thirty-five-pound nugget worth over seven thousand dollars. Little four-year-old Sammy Timmons in Placerville, playing at mining in his back yard, lugged in a gold-streaked quartz boulder worth two thousand dollars. The gizzard of a hen killed at Diamond Springs for Sunday dinner panned out thirteen dollars' worth of gold.



THE FLAG OF THE REPUBLIC OF CALIFORNIA

Three years before the Gold Rush, some of the numerous Yankees who had settled in California, then a part of Mexico, seized the town of Sonoma and proclaimed the "Bear Flag Republic." The flag, on which a five-pointed star and a grizzly figured prominently, had a white field and a red border. In 1848 the territory was ceded to the United States.

The gashes in the flanks of the Sierra Nevada were made by hydraulic pressure, using steel pipes, with monitors at the end, which sent forth a solid jet of water that you couldn't break into with a crowbar. Before the jet huge banks hundreds of feet high melted away like butter. The earth as it was washed down overflowed the river beds and covered thousands of acres of fine farm land with gravel. Between farmers and miners, a great quarrel arose, known as the "anti-debris" or "anti-slickins" fight. But when, in 1884, the United States Supreme Court "enjoined" hydraulic mining, the farmers gained the upper hand.

Another modern method of obtaining gold is by "quartz" mining. Shafts are sunk deep in the earth, and great hunks of rock brought to the surface. These are then broken up in a quartz mill where a hundred half-ton iron stamps drop upon them many times an hour.

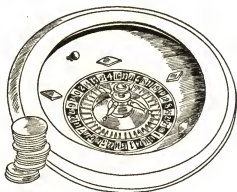
In the days of '49, gold in its raw state quickly replaced currency and whatever had been used as money before it. Back in General Sutter's time the "beaver orders" of the Hudson Bay Company were often used as currency. Hides also served this purpose, and Sutter called them the real bank

notes of California. The resourceful Sutter, in his dealings with the Indians, used his own coins of tin, with a star in the middle and holes punched around the outside in a ring, each one of which was supposed to represent a day's work.

But coin, beaver orders, and hides were immediately vanquished by the ubiquitous gold dust. The storekeepers kept it in open tea chests under their counters. There was so much of it that the temptation to steal was less strong than one might suppose, especially as every miner carried a pistol and did not hesitate to use it to protect property rights. The unit of money was the ounce, and the dollar was subsidiary to it.

The first people to spend this gold were the miners who had dug it out of the ground. And that helps to account for the prevalence of gambling. At the same time entertainments of every kind flourished. In numerous variety halls parodies were given of well-known operas and classical plays with which the miners were already familiar. There were "Old Country" dances, sentimental songs, and monologues in every conceivable dialect, not forgetting the ever-popular minstrels.

When one thinks of all the temptations for the miner to spend his money, and the extremely high cost of the necessities of life, it is not difficult to understand that it was much harder for the miner to make a fortune than he had been led to expect in the first days of the gold rush. The fact that their labors might be fruitless for a long time, only to result suddenly in mind-staggering gains, made them reckless and speculative; they were prone to abandon perfectly good diggings in favor of some that were rumored to be richer still. All said and done, to many of the persons who sacrificed everything in their frenzied search, gold turned out to be a snare and a delusion.



## CHAPTER XII

### 1860-1900: The Machine Takes Over

#### INTRODUCTORY

THE war was over. A period replete with a bewildering variety of fashions and forms perished in the smoke of ravaged cities. An era full of promise began. The financial and industrial superiority of the North stamped its character on the development of the country. This was the day of the empire builder. The Cattle King and the Coal Baron had triumphed over King Cotton. Railroads multiplied. From gutter and ghetto the shrewd and the far-sighted fought their way to dominance and built up powerful trusts with ruthless determination. Inventions made it possible to exploit raw materials—oil, lumber, iron—so efficiently that great industries developed. From the exhaustion of war, people turned to reconstruction with such avidity as to leave little time for the pleasant things of life. Much building was done and many attempts made to evolve new architectural styles. But little that emerged was original, and little that was original was good.

#### HOUSES

The chief influence on American architects of the post-war period was the beautiful Paris of Napoleon III. Hardly a building went up in the decade following the war which did not embody some of the features of the Paris Opéra, the Library of Sainte Geneviève, and the new wing of the Louvre. The beaded capitals and rich garlands, borrowed from the Roman temples of Vesta and Serapis, of Charles Garnier's Opera House were copied not only in North but in South America with, on the whole, unfortunate results. More beneficent in its influence was Labrousse's charming and restrained Bibliothèque Sainte Geneviève opposite the Pantheon, with its continuous cornice and ranks of massive arches in the *néo-Grec* style, as the French called it. It became increasingly the custom for young American architects to get their training at the Institut des Beaux Arts in Paris.

Once back on American soil, they found that their freshly acquired French Renaissance style had to contend with a still vigorous Victorian Gothic based on what was supposed to be Italian Gothic design, with pointed arches of varicolored stone. Memorial Hall at Harvard University, with its wooden vaulted ceiling and wooden ribs which shocked the Boston Brahmins of the

day, is traditionally cited as the best example of this not altogether prepossessing school.

Henry Hobson Richardson, of New Orleans, horseman, foilsman, flute player, blindfold chess player, and best-dressed man of Harvard '59, had the courage to work out an architectural style of his own. After studying at the Beaux Arts, he won the competition for Unity Church in Springfield, Massachusetts, with a Gothic design. But his next commission, Brattle Square



A VICTORIAN HOUSE

Many a Victorian "architect" endeavored to incorporate in the suburban house every conceivable architectural element—turrets of all sizes, windows of all shapes, pointed gables, finials, arches, balconies, and piazzas.

The result combined the worst features of a number of styles.

Church in Boston, was daringly Romanesque, and for the tower of Trinity Church in the same city, his greatest work, he went as far South as Salamanca in Spain. The exquisite Burne-Jones windows and John LaFarge decorations gave it some of the warmth of Sancta Sophia in Constantinople and Saint Mark's in Venice. For town halls, railroad stations, jails, libraries, and other institutional buildings he adopted a bold, massive style in which rugged towers and squat arches were executed in heavy rough stone reminiscent of southern France.

The accumulation of wealth brought to the top of the pile a number of individuals who liked to compare themselves favorably with European aristocracy. Fifth Avenue, Newport's Cliff Walk, and huge estates along the littoral soon bloomed with reproductions of the chateaux of the Valois in truly feudal spirit, many of them designed by Richard Morris Hunt. These





### FIREWORKS IN THE COUNTRY

An ideal way to celebrate the "Fourth of July" in the 1860's and '70's was to repair to the porch of a country home and in its neighborhood, from an extremely safe distance, watch a display of fireworks ending up with a "set piece" depicting "The Spirit of '76." This in the opinion of the editors of *Harper's Weekly*—who not only ran the above engraving, from the hand of Charles G. Bush, in their number of July 10, 1869, but inveighed on another page against the horrors of July 4th in the city, with its distressing "pop and whiz of gunpowder," and topped it off with a cartoon of a harassed old gentleman exclaiming, "The Spirit of '76—humph! The Spirit of 76,000 Infernal Wild Cats, I say!" The same issue told how the steamship *Great Eastern* was having uninterrupted success in paying out the new Atlantic cable from Brest; how the Indians were tearing up tracks and murdering trainmen on the Pacific Railroad, and advertised the beginning of a new serial in *Merry's Museum*, by Louisa M. Alcott, called: "An Old-Fashioned Girl."



were an appropriate setting for the ostentatious ceremonial of the leaders of finance. When people of less lavish means attempted to copy the style, little remained but the façade.

It was fortunate that there were men like William Morris, English apostle of the revival of handicraft, to preach the virtues of simplicity. And Americans learned quickly. Most of the buildings at the Philadelphia Centennial Exposition of 1876 harked back to the homely style of Queen Anne. In the same year, four young men went on a trip to New England in the hope of finding a new way to express the Colonial vernacular. The names of three were McKim, Mead, and White, and they were to found one of the most famous architectural firms in America. They saw the lovely old houses of Salem and Portsmouth through new eyes and rediscovered such ancient materials as "Harvard brick" and Pennsylvania ledgerstone. Yet, although Charles Follen McKim and his partner Stanford White were recognized as the leaders of the Colonial revival, McKim was not afraid to pattern the tower of Madison Square Garden after the Giralda in Seville; the Boston Public Library after Sainte Geneviève; and the Herald Square Building in New York after the Palazzo Consiglio in Verona.

Such variety demanded much of the architect. From the young aristocrat of Jefferson's day who could design the buildings on his own estate, the architect had evolved in a hundred years into a rigorously trained professional versed in many styles, on the alert for new materials and forms, and able to cope with any demand however unexpected.

The melting pot of styles continued to simmer. Every once in a while it boiled over and brought to the surface a predominating influence. So, in 1893, the Chicago World's Fair put its seal on a return to pure classic forms.

The industrial era brought a new and profound problem. Living habits were changing, and with them, buildings. To the theaters where people relaxed; to the churches where they prayed; to the colleges and libraries where they sopped up culture; to railroad stations, post offices, mansions and homes, were now added places where they went to work: the office and the factory. For these, no precedents existed. The architect had worked for centuries with the traditional materials of wood, brick, and stone. For a while he experimented with cast iron. Now iron and steel, of a strength hitherto unknown, made possible vertical supports strong enough to carry the weight of the floors, thus permitting wider spans. Riveted into angles, plates, and other shapes, the frame was so rigid that it need be no wider at the base than at the top.

But before architects could take advantage of this principle to design buildings of unusual height, a material had to be found to prevent the twisting and bending of steel in case of fire. Portland cement was the answer. First made in France at the beginning of the century, it was being used widely in

European countries. It was left to the American architect, however, to evolve with its help a new principle of construction: the skyscraper.

It was not a coincidence that the first skyscraper rose in Chicago. Offering an unlimited field for building after the ravages of the great fire, the city became a Mecca for progressive architects. The Home Insurance Building, erected in 1884, whose walls as well as floors were supported by the metal skeleton, was probably the first in America to embody the true skyscraper principle. Three years later came the Tacoma Building with cast-iron columns, wrought iron girders and beams, hollow tile arches, and foundations of concrete reinforced with rails. The development of the high-speed elevator; the growth of cities; the increasing value of land; and the absence of any restrictions in height such as were in force in European cities offered opportunities of which this new type of building took full advantage. The skyscraper swept the country.

## FURNITURE

Architecture in the decades following the Civil War may have produced a few illustrious names; the art of furniture making produced none. What people lacked in taste, they tried to make up in lavishness, throwing together all sorts of unrelated and ill-fitting styles, periods, shapes, colors, and forms. Wealth and the machine combined to produce an era marked by tasteless imitation and extravagant decoration.

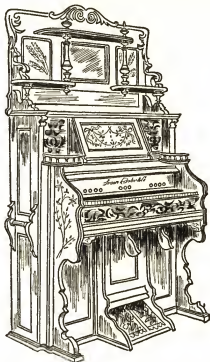
Of the two, the machine was the more powerful influence. Although it was only a few years since Tom Lincoln, Abe's father, had applied himself to the making of spinning wheels and pulpits, Stephen A. Douglas had made cabinets, and Boss Tweed had put chairs together, it might as well have been a hundred years ago. Craftsmanship had gone, and pride with it.

At the factory, the chief carver—in charge of furniture design—aimed not at beauty but at models which could easily be turned out by the clumsy machines of the day. Into different homes went furniture of identical pattern, and in every household there was the same low level of taste.

Along with the furniture itself, choice and arrangement became standardized. It became fashionable to confine the furnishing of entrance halls, anterooms, galleries, and corridors to marble tables and their complement of chairs. In contrast, drawing and music rooms, salons and libraries must be crowded with the most expensive furniture. And if none of the pieces were alike, so much the better. The sofa might be Duchesse, with scroll back and arms heavily cushioned. The massive English-style Howard sofa with its heavy square back would often be found in the center of the room flanked by a table of rosewood or mahogany. A bronze bust upon an ebony and gilt pedestal might stand against the tinted wall with its plain band for a border.

Gentlefolk of the Victorian era would have been almost as disturbed to see the bare wooden framework of their heavy, square, deep-seated chairs as

to see the calf of a lady's leg. So, upholstered in French gray or pale blue-green, in rich crimson or scarlet, such chairs were elaborately tufted and fringed, with fat tassels swinging from the arms. As one could not get a good grip on them to move them around, they were equipped with casters which in addition made it possible to vary the arrangement of the room. Footstools,



#### A PARLOR ORGAN OF THE NINETIES

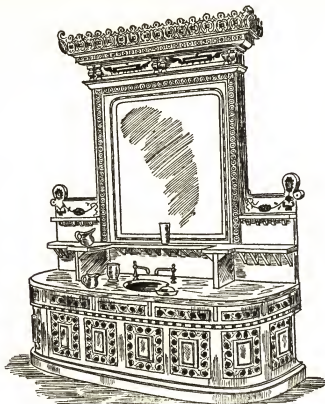
In the nineties, a parlor without an organ was almost unthinkable. It cost less than a piano, and was more popular. Observe the shelves for bric-a-brac. One Sears Roebuck model boasted "a beautiful canopy top, ornamented with hand carvings and supported by two graceful pillars."

With each organ went a complete instruction book.

commodes, candelabra, fire screen, vases, mantel clocks, paintings, brightly flowered carpets, and lace curtains, made any room look small.

From England came an influence for the better: the work of William Morris, and Charles Locke Eastlake. Poet and artist, the romantic if somewhat naïve nature of Morris was stirred by the study of French cathedrals. Out of a discussion with friends about the work of the artist of olden times who personally designed every detail of decoration, came an association of craftsmen covering the entire field of decorative art: furniture; fabrics and

stamped leathers; draperies and wallpapers; metal work; stained glass and mural decorations; needlework and carpetry. Their models, which emphasized attention to detail, grace, and full natural tones in contrast to the un-



A VICTORIAN WASHSTAND

This is what happens when the followers of a Victorian architect with neo-medieval ideas turn their talents to the humble washstand. With its moldings, its inlays of colored woods, its heavy-handed decorations, it represents the exact antithesis of modern functional principles. This satinwood washstand with inlays of rosewood and mother-of-pearl dates from 1880 and was inspired by Eastlake.

gainliness and fast-fading colors of factory products, were widely copied in America.

The name of Eastlake appeared with increasing frequency in fashionable magazines of the day such as Godey's *Lady's Book* or Nicholson's *Workman's Companion*. Ultimately it was given to the style of an entire period. In *Hints in Household Taste*, written in 1858, and for a long time the most widely read book in its field, he called for a return to honesty in craftsmanship.

Stone should be rugged as Nature made it. Iron should not be cast in molds but wrought on an anvil. Wood should be worked in such a way as to enhance rather than obscure its characteristics. Dowels, pegs, and chamfers should not be concealed.

This sensible doctrine is surprisingly like that of the modern utilitarian school. But it was a pompous and ornate period, and Eastlake's admirers did exactly the opposite of what he intended. Where he pleaded for natural design and orderly arrangement, they over-adorned and over-decorated every bare spot on bedsteads, corners and ceilings with wax flowers and broken wheat stalks, with corals and shells in curious and intricate designs, with blooming tiles, and on the mantel a bronze Greek and Roman goddess with arms upraised over a clock in her stomach.

In these crowded and stuffy interiors lived and moved the children and grandchildren of the gentlefolk whose courtly ways had been set off by a background of delicate Adam wood carvings and the exquisite cabinet work of Chippendale and Sheraton.

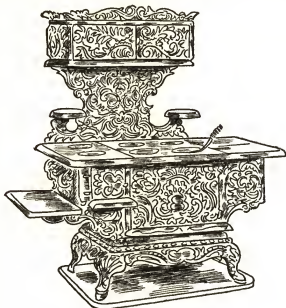
Even Eastlake must have shuddered at the ultimate effect of his innovations. A group of self-styled intellectuals, from the ranks of the decorators and magazine writers—dubbed "artys" by the public—pointed the finger of scorn at sideboards whose veneered panels, scrolls, columns, pillars and marble tops could be called Greek, Roman, French, or Medieval German, according to the viewer's fancy. So they turned modern with a vengeance, substituting steel and even gilt and enamel chandeliers for glass; light bamboo chairs for heavy English; introducing Sèvres ware, Turkish rugs, and parquet floors waxed till they glittered. To perdition they consigned the "machine stuff with its jumble of pillars and plush of Canal Street"—along which were the shops of most of the New York furniture makers.

Other efforts at unity only added to the general confusion. Rhoda and Agnes Garrett pleaded for a return of the Queen Anne style in their book *Art at Home*, which was popular in the late seventies. True to the tendency of the time, however, their suggestions were misapplied. Apparently Victorians just couldn't be simple, and other time-honored sovereigns—Elizabeth, James, etc.—inched their way back into the living room. Sideboards, bookcases, and cabinets boasted backs that towered almost to the ceiling, with a plethora of shelves laden with china, silverware, and bric-a-brac, and sometimes a cased top lined with richly gilded stamped leather.

But after a hearty meal your pot-bellied gentleman of the post-bellum era in search of a snooze liked to slip into the comfortable American rocker without which no home was complete. It, too, gradually evolved into a fantastic thing of curves and curlicues. Even more elaborate was the generously upholstered Cox chair which came to include such mechanical improvements as the sliding foot rest and tippable back, and the still familiar Morris chair.

Bulging sofas and well-padded chairs were more than merely a matter of

taste. They stood as a symbol of the bulging pocketbook. People went to any length to obtain exotic decorations: velours and damasks at forty or fifty dollars a yard; hand-printed leathers at a hundred; stained glass windows; Gobelin tapestries; Italian mosaics; carved Chinese cabinets; quaint Dutch clocks; sacred hangings from India. Americans craved antiques. Tables



A CAST-IRON STOVE

The aesthetic impulses of the nineties found their outlet in the decoration of cast-iron kitchen stoves, despite the inordinate amount of polishing thereby necessitated. Not only did the housewife of the day bake her own bread, and make her own pies, but she had to bring in the coals, keep the fire going, and carry out the ashes.

of thousand-year-old English oak; rugs embroidered in Spanish convents centuries ago. Even the vestments of the Popes were not exempt.

The predilection to over-decorate reached a climax in a style whose thick red hangings, cotton tapestries, bandannas, and center divans suggested the harems and *souks* of Constantinople. The late nineties became known as the Oriental Era.

## CLOTHES

Elaborate interiors—elaborate clothes. The hoop skirt, already more than ample in the fifties, had reached such proportions by the Civil War that, chroniclers assert, one lady attempted to run the blockade with several rolls of cloth, pairs of cavalry boots, packages of gold braid, and tins of bully

beef hidden under hers. Another concealed her pet spaniel beneath the generous folds of her petticoat until the dogcatcher was safely out of range. But as in the case of the mastodon and the saber-tooth tiger, the extreme size of the crinoline spelled its doom. It became so unmanageable that women realized the need of a new style. To abandon the bell shape would have been too drastic. Reducing the amount of material required from sixteen or seventeen yards to a mere ten or twelve, they did away with any hint of fullness in front



A MODISH CAPE

This "Ladies' Cape of High Grade Quality of Black Silk Faille, handsomely trimmed with torchon lace all around the collar and two rows around the cape," was advertised in the Sears Roebuck Catalogue of 1899. Priced at \$5.50 (postage, extra, 23c), it was both stylish and popular. The collar of the cape often matched the lower part of the hat, so that the face seemed to be peering out from between layers of frills and lace.

and on the sides. But with all good will the Victorian woman could not help exaggerating somewhere. The remaining yardage went into building up the back, which became so heavy that a contraption had to be invented to support it. Thus was born the bustle. A sort of cage made of four or six vertical springs encased in cloth, it was held up by elastic ribbons, which were worn over the shoulders, and were buttoned to the belt in front. Down in classic folds over the bustle cascaded the skirt itself to trail for more than a yard behind the wearer. One held oneself very erect, less from pride than from a desire to achieve a proper silhouette.

The tailors of Paris who had destroyed poor Barthélemy Thimmonier's model of a sewing machine in 1830 because they feared competition, were not far wrong, as it turned out. When during the Civil War the Union government supplied sewing circles with these machines to speed up the making of

uniforms, women quickly learned how to use them. For the next quarter of a century dresses were made at home. More women had more dresses, and dresses had more fringes and flounces.

Ebenezer Butterick was a tailor. One day his wife Ellen noticed that the intricate diagrams then furnished to dressmakers were difficult to trace and



#### A LADY OF THE RECONSTRUCTION PERIOD

Although she had grown tired of the crinoline, your lady of the Reconstruction Period still carried an amazing quantity of material around with her—caught up at the back in loops and flounces, over a bustle. The sewing machine and the paper pattern led her to prefer costumes more elaborate in cut and drapery than ever before.

cut. A simple paper pattern for children's clothes might be a boon to mothers, she thought. Ebenezer fell in with the idea and in 1871 they made the first pattern, a "Garibaldi suit," which before long was worn by many a little American boy. Hundreds of Butterick patterns were sold the first year.

Not long satisfied with the change from hoop skirt to bustle, women began to draw the skirt so tight over the knees in front that walking was difficult, and to mold the bodice so close that breathing was an effort. Some women rebelled. The more emancipated and widely traveled compared the American



fashion with the dress reform movements in European countries. From Germany came a vogue for wool pursued with such relentless consistency that even the humble handkerchief was not exempt. To it Americans owe the "union suit"—a one-piece undergarment made of wool instead of cotton. This advance guard of female emancipators also attacked the corset, and ad-



THE PRINCE ALBERT

The visit of Albert Edward, Prince of Wales, to the United States in 1876 made fashionable the long, double-breasted frock coat. Worn with the silk hat, which had replaced the beaver, it expressed Victorian solidity.

The one pictured here is of early vintage.

vocated the divided skirt—with less success. But favorable factors were at work. The bicycle was a blessing in disguise. You couldn't ride on one in a bustle. Riding, golfing, and tennis, too, taught how to dress more comfortably and reasonably. As women began to enter business and the professions, they came to adopt simple and attractive styles. The tailored suit made its bow.

Coiffure stayed complicated. At first the hair was piled on the top of the head in a towering mass, confined in a net. It was parted in the middle in front and combed into neat ringlets on the sides. The demand for false hair brought prosperity to importers. Later, the side curl became popular. Old-fashioned bonnets were superseded by hats sometimes so loaded with flowers, lace, and feathers that their wearers had to bend forward to restore balance. This must

have been something of an achievement in the days before the tight bodice, the close-tailored sleeve, the high and narrow collar, and the snug-fitting shoe had given way to more sensible garb.

Unlike his better half, the merchant of the reconstruction period was not impressed by foreign fashions. The beau of Paris, the London swell, in cut-away, flashy waistcoat, and silk topper, found few admirers. The short single-breasted coat reaching to the middle of the thigh, at first square cut and later somewhat rounded in front; the collar cut in a small V, with narrow lapels framing the high-buttoned waistcoat, was good enough for him.



#### HIRSUTE ADORNMENTS

Hardly had the head of man been relieved of the periwig, on its upper part, than the whisker timidly made its appearance on the lower. In England, in the sixties, "Piccadilly Weepers" were the fashion, but in America any form of tonsorial appendage, from the modified "spade" to the modified "Imperial," was *de rigueur*.

By no means indifferent to the growing apathy of their American clientele, English and French tailors opened stores in New York, Philadelphia, and Boston.

The expansion of trade and industry made inroads on man's time; of necessity his clothes became simple and practical. He favored the informal sack coat, forerunner of the modern business suit. In contrast to his ancestors who paraded a dazzling variety of colors and fabrics, he came to use the same material for coat, vest, and trousers of sober brown, black, or blue. It was considered elegant if not audacious to sport vest and trousers of a slightly lighter shade. The time-honored strap under the instep gave way to the straight and full trouser leg, without cuff.

Here the trend toward simplicity ended. Manly bosoms were encased in generously starched shirts of heavy linen. Too cumbersome to be lightly tossed into the laundry bag, they were equipped with detachable collars and cuffs. As mere buttons were unequal to the task of penetrating the button-holes, soon heavy studs, collar buttons, and cuff links abounded. Not satisfied with the display of jewelry on wrist, neck, and chest, your prosperous

burghers would stick rings on their fingers, pins on their ties, and chains on their vest pockets. Nature and Anno Domini permitting, hair was worn long and waved, parted in the middle and plastered on the forehead in two thick curls. As leisure grew shorter, whiskers grew longer. Every conceivable variety of beard and mustache, from the Van Dyck to the Piccadilly weeper flourished on the face of the American male.

## FOOD

Although the city man was beginning to acquire a taste for new food, on the plains and prairies the frying pan was still king. Isolated in winter, the farmer tried to make up in warmth on the inside what he lacked on the outside by stuffing himself with poultry and game. Then in the spring he trekked off to the village druggist for the inevitable dose of sulphur 'n' molasses.

But progress in manufacture and transportation, especially after 1870, brought hitherto unknown edibles to the cities, especially in the East. Salmon brought from Alaska, and lemons and oranges carried from California in specially built refrigerator cars, now varied the usual diet of pork chops for breakfast, hot roast for lunch, and cold roast for supper. From factories came canned tomatoes and milk, canned corn and beef, canned peas and beans, canned tuna and sardines. Forerunners of a long line of packaged and propagandized cereals, Quaker Oats and Wheatena took the place of the traditional cornmeal mush at breakfast.

And immigrants brought their native dishes. While German sauerkraut and white potato had been familiar to Americans since the days of General von Steuben, now the Italians contributed spaghetti; the Hungarians, goulash. Unknown in China, chop suey made its appearance at this time.

Appliances—the steam cooker, the double boiler, the Dover egg beater, the gas toaster, the asbestos stove mat, the cake tin with removable bottom—invaded the kitchen in such bewildering variety that the distracted housewife had to learn cooking all over again. Schools were organized. Another revolution occurred in the nineties with the introduction of light, non-poisonous, heat-conductible, and easily handled aluminum ware.

The production of food became almost too efficient. It was the boast of the Chicago slaughter houses that they utilized every part of the pig but the squeal. Oleomargarine became so popular that enraged dairymen, with plenty of butter on hand, did not rest until it had been practically taxed out of existence.

To the delight of the young, industry flooded the country with peppermint sticks, gum drops, and chewing gum, while both children and grown ups grew so fond of ginger beer and pop that at the turn of the century no fewer than sixty thousand soda fountains dotted the sidewalks of cities large and small.

## AGRICULTURE

By the time of the Civil War the things which man invents to make life easier and crops more abundant were being used increasingly on many farms. Steel plow, reaper, binder, and thresher were part of the American scene. So efficient were these tools that in some sections a surplus of food was grown, giving rise to discontent among the farmers and leading to such



A MULE

No chronicle of American agriculture would be complete without the humble mule, who, combining the ruggedness of the donkey with the mobility of the horse, has made himself well-nigh indispensable, particularly in the West and South.

movements as the Grange. And so efficient, too, that they quickly used up the land; agricultural schools and experimental stations were founded to teach proper treatment of the soil.

In an age when farming machines were not so much invented as perfected, it remained for a young farmhand with a distaste for drudgery to make the single outstanding contribution. In 1858 John F. Appleby had invented a device that would tie a knot in a piece of twine. A failure, it was sold at auction for seventeen cents, the buyer returning it to the inventor. But Appleby was not deterred from his search for a perfect grain-binder. Existing models used wire, and it was claimed that pieces of wire would get into the straw and injure animals in their stalls, or get into belts and conveyances and damage machinery. After nine years' effort, Appleby demonstrated a per-

fectured model using twine which made harvesting a completely mechanical function.

In the winter of 1864-1865 a Utah teamster hauling supplies was caught on the Laramie plains in a snow storm. His provisions exhausted, he turned the oxen loose, never expecting to see them again. To his surprise they came back in spring stronger and healthier than before. What he observed, that the short grass of the North furnished even better fodder for cattle than the Texas ranges, had been no mystery to the explorers and those who crossed the plains in the forties. But now the word spread. The cattle trek got under way. Huge herds moved slowly up through the Middle Western states, and the lowing of the cattle and the shrill yells of the cowpunchers echoed on the Chisholm Trail connecting the Red River in Texas with such towns as Abilene in Kansas.

The men who made the money out of the cattle were not the ones who drove them but the ones who slaughtered them. A young man had left his farm in Stockbridge, New York, to join the gold rush in California. Too canny to dig for gold himself, he made a handsome eight thousand dollars in five years digging trenches for prospectors. The same astuteness led him to realize that there was plenty of meat in the West but that the people who ate it were in the East. Another Easterner, a practical dreamer from Cape Cod, took the invention of the refrigerator car seriously when most people ridiculed it. Between them, Armour and Swift laid the foundations of an immense packing industry whose products became a byword in the American kitchen.

## TRANSPORTATION

The years which saw the conquest of the South by the North also saw the railroad conquer the canal. Since 1840, in spite of the great hopes they had aroused, the canals had been extended a paltry four hundred miles to the existing three thousand three hundred, while railroads had increased from three to thirty thousand miles. Trains now ran night and day over improved tracks between such distant points as Boston and Raleigh, North Carolina; Mobile, Alabama, and Springfield, Illinois.

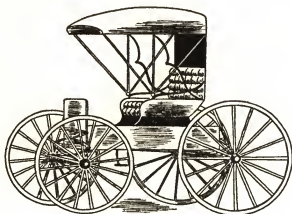
The day of hopping from train to boat to coach was over. Travel was becoming less arduous. And toward this goal few ideas have contributed as much as the one which came to a twenty-seven-year-old building contractor during a restless night on the narrow shelf and lumpy mattress of a so-called sleeper back in 1858. George M. Pullman was his name, and shortly thereafter he borrowed from the Chicago and Alton Railroad two flat-roofed coaches only six feet high on the inside and built into them ten sections of two berths each. Although the cars were supplied with blankets and mattresses, linen lockers and candle lights, and had a one-man washroom and stove at each end, sheets and carpets were not considered necessary.

When the second Pullman was built, after the war, it was not only ten

feet longer, but—as railroad men were quick to point out—too wide for station platforms, too high for bridges. To which Pullman's reply was:

"Then you have to change the platforms and raise the bridges."

Nevertheless, in spite of its exquisite woodwork, its expensive upholstery, its spacious washrooms, the *Pioneer* seemed doomed to rust in the yards. However, when Lincoln was assassinated, it was commandeered as part of the



THE SQUARE BOX BUGGY

A familiar sight on country roads in grandfather's day was the ordinary black buggy, which was really nothing more than a box on four wheels, equipped with a top. From the shape of the box, buggies were designated as coal box, piano box, etc., or from the suspension, as elliptical spring or side box. "Light, handsome, and elegantly furnished throughout," this popular successor to the "one hoss shay" was a favorite with country doctors.

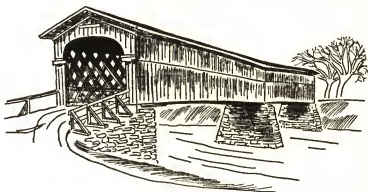
funeral train to take his body home. From Washington to Springfield, Illinois, platforms were widened and bridges raised.

In spite of progress, accidents were frequent. In 1866 a man who although not more than twenty had served in the war as cavalryman and naval engineer, witnessed the head-on collision of two trains near Schenectady, where he worked in his father's machine shop. Though the engineers could see each other, it took too long to set the brakes on each separate car. If they could be operated simultaneously from the cab of the locomotive, thought George Westinghouse, such wrecks could be avoided. But when he went to work, he found that on long trains the windlass on which the brake chain was wound would have to be too large. Nor was steam practicable as it lost too much power on its way through the pipes.

One day at lunch he read in a magazine that Swiss engineers used compressed air in boring the Mont Cenis tunnel, and knew he had the answer. Borrowing money, he equipped a four-car train with his brake and sum-

moned the experts. As he pulled out of the depot, a team of dray horses took fright, and, rearing, hurled the driver onto the track. Westinghouse stopped the train so abruptly that his guests were jolted out of their seats. They didn't relish the experience. But they liked the air brake.

Cities, expanding, burst the bonds of their confining rivers. As traffic with their new suburbs increased, bridge building became a problem. Broad rivers called for long spans, and long spans called for a new principle of construction. John Augustus Roebling knew bridges, of which he had built a



A COVERED BRIDGE

Our forefathers, who built to last, learned that the covering of a bridge protected the trusses from weather and decay, and prevented the horses from looking out and becoming frightened. Although the builders of the first American covered bridges copied English models—and the English in turn had copied the Swiss—they became masters of the art, and the names of some of them: Howe, Palmer, Burr, and Ithiel Town, who patented the type of lattice truss shown here and made a fortune, have come down to us.

number. To this owner of a wire rope factory occurred the idea of suspending the bridge from cables instead of resting it upon supports. He tested his theory at Niagara Falls in 1851 by building a long-span suspension bridge which the engineering fraternity almost to a man expected to collapse momentarily. Ultimate and brilliant confirmation of his theory came more than thirty years later with the completion of the Brooklyn Bridge by his son. He himself had died fourteen years earlier.

Small boys sitting on fences, in the early nineties, were privileged to hoot at as strange a vehicle as had ever rolled through the placid streets of Springfield, Massachusetts. A single-seater buggy, without any visible horse, was steered by one Charles Duryea sitting atop a coughing four-horsepower engine. Little more impressive was the conveyance which a tall, gangling man of thirty rolled out of the brick shop back of his home into Bagley Avenue, Detroit, on a dark night the following April. The chassis consisted chiefly of

bicycle wheels. Its two-cylinder engine was hidden under the seat, which was cushioned as a concession to comfort. As Henry Ford was an engineer for the Edison Electric Company at seventy-five dollars a month, he had to do his inventing at night. And he had to do it alone.

Daimler in Germany had designed a light engine thirteen years before which made the self-propelling gas vehicle possible. A Frenchman, Levassor, gave the automobile its distinctive design by placing the engine in front and adding the transmission to carry the power to the rear wheels. Ford brought



A GASOLINE BUGGY

In 1896, the automobile was simply a buggy equipped with a one-cylinder engine capable of the magnificent speed of twelve miles an hour. When that bold pioneer, Theodore Roosevelt, rode in one in 1902, he was followed by a horse-drawn carriage ready for any emergency. And in Tennessee one week's advance notice in the newspapers of intention to travel by automobile was required by law.

infinite patience but contributed no new fundamental idea. Instead, he commercialized the invention. And whereas in the early days he would have considered himself lucky to get orders for as many as three dozen of his gasoline buggies, he lived to see them revolutionize transportation.

People were using the telegraph. Its lines reached westward as far as Nebraska, and east from San Francisco as far as the California state line. To bridge the gap of more than a thousand miles of mountain and desert, Majors, Russell, and Waddell organized a service in 1860 which saved fourteen days in sending messages from coast to coast. Using relay stations ten to fifteen miles apart, lone riders of the Pony Express changed horses twice before handing on the mail pouch. Lincoln's first inaugural address was carried from St. Joseph, Missouri, to California in seven days and seventeen hours: a record. Twice a week for sixteen months the mail was carried in



this way until the transcontinental telegraph line was completed. The fine horses which, contrary to the pictures that have come down to us, were considerably larger than the typical Western cowpony, forced their way through blizzard and drought. The riders never knew when a screeching band of painted Comanches or Paiutes might come thundering up from behind and bring them to earth with a shower of arrows and lead.



A CIGAR STORE INDIAN

Whether these naïve reminders that tobacco was the red man's gift to the white originated as discarded ship's figureheads may be open to question, but it is certain that in the early days they were carved out of old masts by ship carpenters. When one proprietor started in business in Baltimore in 1861, he spent \$30 on his stock, and \$40 on the wooden Indian without which no tobacco store was then considered complete. Today the wooden Indian is the last of a vanishing race.

Less picturesque but equally meritorious were the achievements of individuals in small workshops far from the frontier. A tall frail man of modest mien who had had many jobs: printer, publisher, editor, politician, commissioner, postmaster—but only one love: tinkering—had put together a contraption. It seemed little more than an old telegraph key, a pane of glass, and some pieces of wood. Guiding a sheet of paper with the left hand, the man

tapped the key and printed a long line of "W" 's. With forty keys, explained Christopher Latham Sholes to an audience of two friends, he could type the whole alphabet as well as the numerals.

A good "typewriter" was badly needed. Copyists were swamped by a rising tide of legal documents, records, and business letters. The three men formed a company, and the first machine left Kleinstaub's little shop in Milwaukee in 1867. "Now is the time for all good men to come to the aid of the party," typed Sholes among the first sentences, with his thoughts on the hotly waged municipal campaign. But not until the Remingtons, owners of the famous arms factory, had bought the rights, did the typewriter become a commercial success. Sholes, father of ten children, contented himself with twelve thousand dollars in cash and went back to his shop to work on a better model, declaring:

"All my life I have been trying to escape being a millionaire, and now I think I have succeeded."

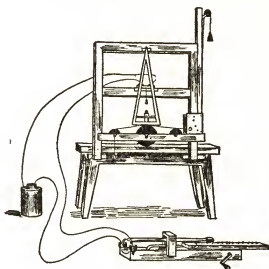
As city buildings grew larger, the range of the human voice became smaller. There was less shouting across the street, less gossiping over the fence. To communicate with lawyer, doctor, merchant, it might often be necessary to walk or ride many blocks, to climb six flights of stairs. How the human voice could be carried over a distance, was a problem on which a tall, thin Scotchman with black side whiskers and bushy, jet-black hair over a high, sloping forehead, had been working for years. For generations his family had been interested in human speech: his father invented a way of teaching speech by lip movement, and Alexander Graham Bell himself was a professor of elocution at Boston University.

He saw no reason why the process of the German physicist Helmholtz who had caused tuning forks to vibrate by means of electromagnets, could not be reversed. If a tuning fork could be made to impart its pulsations to an electric current—just as air varies in density under the impact of sound—human speech could be carried over a distance. Bell became so absorbed with the idea that he dropped his pupils one after another till only two remained: Georgie Sanders, a little deaf-mute whose father was to be one of his most ardent supporters, and Mabel Hubbard, a deaf girl of fifteen who later became his wife.

The original telephone consisted of a magnetic pole wound with fine copper wire, one of whose ends was grounded, the other being connected with the line. In front of the pole was a soft-iron disk connected with a mouthpiece. On the other end the same device acted as receiver. Bell's invention changed sound into current, and current back into sound.

One day in March, 1876, when Bell had just turned twenty-nine, he was testing his machine in a Boston garret. His assistant two floors below distinctly heard a voice over the wire: "Mr. Watson, please come here, I want you."

Few persons appreciated its importance, however, until an unusual incident called their attention to it. At the Philadelphia Exposition that year no one paid any attention to the funny little machine tucked away in a corner until to the surprise of his entourage, Dom Pedro, young emperor of Brazil, picked up the receiver and exclaimed: "My God, it talks."



AN EARLY TELEGRAPH INSTRUMENT

In the days when Morse telegraph apparatus looked like this, it was often quicker to wrap up your idea and send it by mail. There was no insulation. In wet weather messages lost themselves in the ether. And wires had a wicked way of draping themselves over trees. During the first eleven months the line was open between Washington, D. C., and Baltimore, only a handful of persons took the trouble to use it.

Thanks to the press, others soon were permitted to share in the Imperial amazement. Within eighteen months some eight hundred telephones were in use. The Western Union Telegraph Company, which at first refused to buy the "scientific toy" for a hundred thousand dollars, later changed its mind and came to an agreement. Shares of the Bell Company jumped to a thousand dollars.

## INDUSTRY

Having waited impatiently for the end of a destructive war, manufacturers and merchants now found themselves faced with the demands of a reunited country. Youth dreamed of discovery.

In the cellar of a frame house in Port Huron, Michigan, were two hun-

dred bottles every one of which was marked POISON. Not that they contained any, but a youth with a gift for experimenting wanted to keep meddlers away. With materials obtained from the drugstore he concocted formulas he could hardly have learned in school, where he had spent not more than three months in all his eleven years. Impelled by relentless curiosity, he was equally fascinated by the various branches of mechanical science. When a few years later the father of a girl he had saved from being crushed under the wheels of a train offered to teach him telegraphy, he promptly accepted. By the time he was twenty-four he had picked up enough not only to repair the ticker service of a Wall Street firm but to sell it ideas about duplex and quadruplex telegraphy. Prompted by the results, the firm offered him a salary, expenses, and the financing of his inventions if he would go on inventing. Once again, Thomas Alva Edison promptly accepted.

His aim was to harness electric current and make it produce light. But when he proposed to tame the force of electricity to a point where it would flow harmlessly through a small bulb, the world's scientists demurred. No material, they said, was sufficiently resistant. Unconcerned with all but his own opinions this descendant of Dutch and Scottish ancestors proceeded to heat by electricity various high-temperature-resisting substances. In a glass vessel from which most of the air had been removed, a charred strip of paper glowed for eight minutes. Two more years of experimenting which cost forty thousand dollars made it possible to carbonize a piece of sewing thread in an airtight glass bulb.

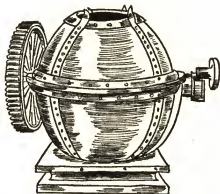
"We sat and looked," said Edison of this October 21 of 1879, "and the lamp continued to burn. The longer it burned, the more fascinated we were. None of us could go to bed, and there was no sleep for forty hours."

Two months later a gala demonstration of electric illumination at Menlo Park drew such a crowd that the Pennsylvania Railroad had to run special trains. Six months later the first incandescent lighting system was installed on the good ship *Columbia*, ready to sail for San Francisco via Cape Horn. Three years later the first electric lights in the offices and the streets of New York attracted the attention of visitors from all over the world.

Other inventors pondered the problem of power. A country storekeeper and self-taught mechanic had invented a steam engine but his claim that it used little fuel was not believed. Aside from being a pleasant fellow, George H. Corliss was a business man. He gave away one of the first engines, asking only to be paid for the saving in fuel over a period of five years. His ingenuity netted him nearly twenty thousand dollars, or several times what the engine was worth.

With better machines industry took to specializing. Clocks, watches, brass ware came from Connecticut; ready-made clothing, gloves, collars, cuffs, from New York; Massachusetts became the home of textiles; Ohio of safes and vaults; California of fruits and alcoholic beverages; Illinois of meats; Pennsylvania of coke and iron; copper was found in Montana and Arizona;

iron in Minnesota. Inventions multiplied. Jacob Sawyer of Lowell, Massachusetts, devised a spindle making ten thousand revolutions a minute; it doubled the capacity of his mill. P. G. Givernaud, who had come from Lyons with three sons, sixty weavers, French methods, and Swiss machines, originated a domestic silk industry. Adolphus Busch found a way of bottling beer for varying temperatures and climates. He took to wife brewer Anheuser's daughter, and the Anheuser-Busch name was praised wherever thirsty throats craved the taste of foamy ale.



HERALD OF THE STEEL AGE: A CONVERTER

At the time that Sir Henry Bessemer was solving the problem of making cheap steel, an American, William Kelly, had the same idea. In 1861 he built the first American converter and five years later joined forces with Bessemer.

Notwithstanding numerous other improvements, the weaving industry was handicapped by the necessity of stopping the loom to load the shuttle with yarn. An English mechanic who, tired of factory work, had taken up farming, thought he could design a self-loading loom within a week and at a cost of not more than one dollar. To the surprise of all but himself, in a week's time James H. Northrop emerged from his hen house with a wooden model. The Northrop loom reduced weaving costs by one half and enabled one person to operate a number of spindles simultaneously.

By the time the Statue of Liberty was unveiled on Bedloe's Island, industry's first self-made problem unfolded itself: how to produce cheaply in spite of the high cost of labor. An engineer of the Bethlehem Steel Works who doubted all methods and disproved the wisdom of many, thought that with better planning of operations, the men could work faster, especially if tool-steel could be so tempered as to permit high-speed metal-cutting. Patiently studying the machines' capacity and systematically developing his experiments, Frederick W. Taylor spent twenty-six years, two hundred thousand dollars, and eight hundred thousand pounds of steel to prove his point. When he had finished, American industry produced more goods, produced them

more cheaply, and paid still higher wages. Henry Ford first applied "Taylorism"—Taylor's system of shop management—on a large scale; the Paris Exposition of 1900 first demonstrated it to the world. "American machine-tools," a correspondent reported, "were working so fast and taking such deep cuts that the chips and shavings which were turned off were at blue heat and



A CARPETBAG

After the War between the States, the South was overrun by adventurers from the North who, as the planters scornfully put it, "could carry all their worldly possessions in a carpet bag." By stirring up the newly enfranchised Negro, they won for themselves seats in Congress and even governorships. The resulting confusion and corruption lasted until almost the end of the Reconstruction Period.

the tools that did the cutting were red hot. Despite this heat the tools kept their temper and did not lose their cutting edge."

### LIFE IN THE COMMUNITY

Industrial expansion affected cities new and old. Where ore deposits were found, where timber was cut, where railroad lines crossed, where cattle were slaughtered, and fish were canned, new cities sprang up, while the established cities of the Atlantic Coast, stimulated by the activity of the interior and the enterprise of the immigrants, spread out. In the largest cities it became difficult to find one's way around.

To help disentangle the jam of horse-drawn vehicles on Broadway, New York had organized in 1860 the first traffic police squad,<sup>1</sup> distinguished by physical determination rather than dignity. After the war, streets echoed noisily to the cries of milkmen carrying their ware in tin kettles on a yoke; of bakers wearing tall round baskets on the shoulder; of young colored chimney-sweeps:

"Sweep, ho! Sweep, ho!  
From the bottom to the top,  
Without a ladder or a rope,  
Sweep, ho!"

Twenty years went by before electric lights and trolley cars gave the streets a modern note.

And for a long time progress did not disturb the typical public school. Primitively built, its curriculum was almost medieval, its teachers largely untrained, its discipline notorious, its penalties severe. Looking at the list of punishments, children might well have wished for progress in education:

boys and girls playing together	4 lashes
quarrelling at school	3
climbing a tree for every foot over three feet up	1
telling lies	7
nicknaming each other	4
making swings and swinging on them	7
wearing long finger nails	2
not making a bow when a stranger comes in or goes out	3
coming to school with dirty face and hands	2
going about the barn or doing any mischief about the place	7



AN EARLY GRAPHOPHONE

Victorian grandpapa of the luxurious console radio-phonograph of today, is this elegant apparatus. The family sat in rapt attention as the graphophone grunted and squeaked its way through the "flogging scene of Uncle Tom's Cabin," or "Rocked in the Cradle of the Deep" (with saxhorn solo).

Progress fared better in the cities where libraries, partly donated by wealthy men, partly provided by the government, became more numerous.

Children were served along with adult readers until 1889 when the Minneapolis Public Library set aside a shelf with books for minors and three years later gave them a room of their own.

But the greatest reforms came from Europe. The method of a "kind discipline" which a poor Swiss educator had proclaimed about a hundred years before and which aimed at the "natural, progressive, and harmonious development of all the powers and capacities of the human being," swept the



MAIL-ORDER MEDICINE

Even reputable firms responded to the demand for patent medicines which swept the country in the nineties and the early years of the twentieth century, stimulated by traveling medicine men and such national figures as Lydia Pinkham. In addition to the legitimate sale of tonics and cough medicines, fortunes were made in foisting snake oils, gargling oils, seltzer aperients, wart removers, cures for tapeworm and heartburn, cures for the opium and morphine habit, and for drunkenness, on a gullible public.

country; the name of Pestalozzi, who died in 1827, became a byword for progressive education. The new interest was not confined to school children. The observations of Friedrich Froebel, a German mystic with flowing black hair, that children under school age were neglected, and his advice to let them learn while they played, made such a profound impression upon American mothers that the kindergarten became even more popular in the New World than in Europe.

Before the child can be properly trained, it was soon realized, the teacher must be. Agencies were set up where teachers were taught management and organization, hygiene and child study, ethics, school laws, and practical pedagogy. The professional schools did not react so promptly to the changes caused by many discoveries in industry and science. After Stephen Van Rensselaer had shown the way with the opening in 1824 of the Polytechnic Institute of Troy, New York, which bears his name, Harvard followed with



the establishment of the Lawrence Scientific School; Yale with the Sheffield Scientific School; and Dartmouth with the Chandler School of Science. But many a baccalaureate was bestowed before civil engineering and mineralogy became as popular as theology and the classics.

Slowest of all were the medical schools. With the quack and the malpractitioner still widely popular, the study of medicine was frowned upon by the



A WOMAN GOLFER

Toward the end of the nineteenth century a few wives and daughters of the members were grudgingly admitted to some of the golf courses of the land. Here you see Beatrix Hoyt, national champion from 1896 to 1899.

socially elect. A Harvard degree could be had by anyone who presented a physician's certificate that he had read medicine for three years. Not until two members, Charles W. Eliot, president of the university at thirty-five, and Oliver Wendell Holmes had launched a campaign to give medicine an academic standing, and had hinted at the number of deaths caused by the ignorance of Harvard graduates, did reform take place.

While the discoveries of Pasteur, Lister, Koch, Roentgen, Virchow, and Ehrlich led medicine out of the dark ages, a man from Virginia who was an M.D. at nineteen and a surgeon in the United States Army at twenty-three, was hard at work to solve the mystery of yellow fever. The findings of

Walter Reed at the end of the twentieth century that the parasite was carried only by the mosquito made it possible to free Cuba from the plague, and, later on, to build the Panama Canal.

Years before, another physician had given up his ambition to join the Navy so that he might nurse his brother, ill with tuberculosis. After the brother's death, Dr. Edward L. Trudeau, who had shared room as well as bed with him, noticed the same symptoms in himself. Resigned to his fate, the good



THE "BONESHAKER"

After he had been thrown a few times, the sportsman of the eighties was ready to take to the open road on his high-wheeled bicycle. Within ten years, postman, doctor, pastor, and salesman used it for making their rounds, and enthusiastic club members were learning to perform intricate drills.

doctor repaired to the quiet solace of the Adirondacks. He lived for fifty years.

The proprieties often blocked the path of medical progress. It was not considered proper for a male physician to attend during childbirth. Those bold enough to defy the conventions were scorned and ridiculed as "baby doctors" by their own colleagues. Undeterred by many cancellations from outraged subscribers, Marion Harland in her magazine *Babyhood* continued the frank discussion of the subject of pregnancy.

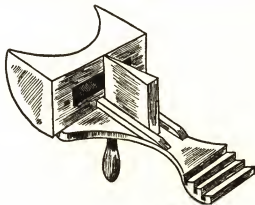
The laws of hygiene were utterly ignored in the living habits of the poorer people in the Eastern cities, where cellars were filled with the stench of tide water, where garbage piled two and three feet high on the streets, where scraps were thrown from windows behind which lay persons ill with typhoid

fever. How people lived became of interest to the government. The first Board of Health was organized in Massachusetts, whose Institute of Technology began to turn out health officials. The first trained nurse was graduated in Boston in 1873.

For the more prosperous there were parks and playgrounds. Sports, before the war the domain of the professionals, now became available to all who cared. In 1868 the New York Athletic Club was founded and the first amateur games held at the Empire Skating Park at Sixty-third Street and Third Avenue in New York City.

But no sport could match the popularity of bicycling. The original two-wheelers were imported in 1876. A few years later, domestic models, with metal wheels reinforced by thin wire spokes and with solid rubber tires cemented to the rim, appeared on the market under such names as the "Bone-shaker" and the "Kangaroo." The front wheel, topped by the saddle and the handlebar, and equipped with pedals, was three and even four times as large in diameter as the rear wheel. The taller the man, the higher a wheel he could ride; many a short man turned to the tricycle. By 1884 over thirty thousand of the tall "ordinaries" were in use in America, and the demand showed no signs of slackening. They were given as wedding presents and graduation gifts, to the despair of jewelers, furniture-makers, and piano manufacturers.

The cancan and the black-face minstrel took the lion's share of theatrical entertainments, leaving little to the drama. The Metropolitan Opera House in New York, built in 1883 by leaders of society to the greater glory of bel canto, was used by the promoters of business for balls, flower shows, and wrestling matches, the latter extending sometimes to the audience. But the zealots of the drama never gave up. John Drew and Ada Rehan made Augustin Daly's Theatre famous. He was paid thirty dollars a week, she thirty-five. More to the taste of a mechanical age was John McTammany's genial idea: using narrow sheets of perforated paper, his invention made it possible to play the piano longer, louder, and with less effort.



## CHAPTER XIII

### OUR DAYS: An Age of Transition

#### INTRODUCTORY

THE twentieth century saw a thriving young country become one of the leading nations of the world. Spreading beyond its two confining oceans, the frontier reached Hawaii and the Philippines in the West, and the Caribbean in the East. Not satisfied with creating trusts, the Titans of Wall Street built them up into monopolies. The promoters of business, celebrated only a few years before as the founders of industrial America, were now dubbed pirates and profiteers. Machines made more jobs and fewer businesses. Pride in self-reliance was sacrificed to the desire for security. The descendants of the settlers came to appreciate the amenities of prosperity.

Although sentiment and romance were outdated, life was stimulating. Stirred by the recognition of American inventors in foreign lands, men in other professions began to search for the new forms demanded by a new age. There were fields in which it paid to be creative. One of them was architecture.

#### HOUSES

With America leading the world in efficiency and industrial development at the beginning of the twentieth century, why should she not evolve her own architectural style? Ford cars did not hark back to the lines of the Egyptian chariot nor typewriters to the Babylonian writing pad. Why should the architect dig his inspiration out of the ruins of Athens and Pompeii?

A fiery, intolerant Boston Irishman found the answer. Louis Sullivan passed the difficult examinations for the Ecole des Beaux Arts after only six weeks' preparation. At seventeen in love with the lakes and prairies of the Middle West, at twenty-five he was firmly established as an architect in Chicago; at thirty—a prophet.

Nature teaches, held Sullivan, that form follows function. A building must neither lie nor pretend. His study of mathematics, his reading of Taine and Darwin, his admiration for Michelangelo, all helped to crystallize this conception. Plaster should not try to look like marble. Decoration should not try to imitate. Asked to design the Transportation Building at the Chicago Fair which was to house Stephenson's rocket and Pullman's sleeper, he carefully avoided any temptation to make it look like a Roman bath or a Greek temple.

But the first building fully to embody his principles was the Wainwright Building in St. Louis, designed in 1890. In this steel-frame office building he proved, as he wrote just before his death in 1924, that "masonry construction, in so far as tall buildings were concerned, was a thing of the past . . . that the old idea of superimposition must give way before the sense of vertical continuity."

Chicago became his domain, but his influence spread throughout the country. Not for long, however. His genius disliked compromise; his customers disliked abruptness. Refused large commissions in the cities, he turned to the design of small buildings in the towns and villages of the prairie states. To-



#### A TWENTIETH-CENTURY HOUSE

The warm, free and almost romantic style of Frank Lloyd Wright serves as a transition from the wedding-cake style of Victorian days to the hard impersonality of the ultra-modern. Lines are low and sweeping, masses interpenetrate asymmetrically. Interior spaces are broken up as little as possible, and continuous bands of windows bring indoors and out into intimate relationship. So logically is this principle adhered to that Wright's houses are not allowed to interfere with natural objects such as rocks and trees; one of them has a brook flowing through it.

ward the end of a career whose disappointments he bore without bitterness, Sullivan set forth his ideas of ornamentation in a series of plates which are among the most beautiful ever drawn by an architect.

Years passed before his brilliant pupil, Frank Lloyd Wright, of Oak Park, Illinois, succeeded in giving his vision a new reality. Like his master, he loved the West. "The prairie has a beauty peculiarly its own, and we should recognize and accentuate this natural beauty, its quiet level. Hence gentle, sloping roofs, low proportions, quiet skylines, suppressed heavy-set chimneys, and sheltering overhangs, low terraces and outreaching walls, sequestering private gardens."

Trained as an engineer, he carried Sullivan's principles a step further, eliminating carvings and moldings; replacing cornices with simple and broad strips; fine woodwork with wood stained so lightly that the rough grain showed. He preferred coarse brick to elaborate masonry. Furniture he built into the walls.

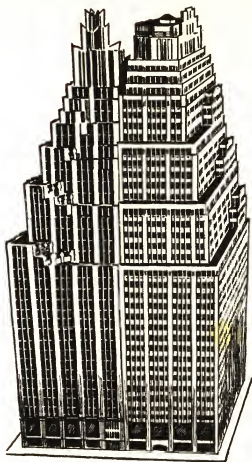
In the past the designer of the private dwelling house had struggled to get

away from the ground. In turning from vertical to horizontal treatment, Wright conceived of the house as part of the ground. Window heads and sills formed long, parallel lines; wide porches, connected by low walls, corresponded with the low roof, and low, broad chimneys. Ceilings were low, walls were bare, windows were wide, with vistas on all sides. One continuous strip of wood ran about the room, connecting tops of windows and doors in one unbroken line. His desire to subordinate all forms, styles and colors to function went so far that, it is said, he sent the mistress of a house he had just completed suggestions, accompanied by samples, of colors and designs she should choose for her gowns.

Spiritually rooted in the American soil though he was, Wright did not disdain to learn from other countries. In Japan, where his Imperial Hotel was the only large building to survive the earthquake of 1923, he learned simplicity: the fewer the rooms, the better the house; art and nature are one; rock and flower, shrub and tree are an integral part of the home. In Germany, this admirer of Goethe not only learned but taught. His *Sketches and Executed Work*, published in Berlin in 1912, influenced architects throughout northern Europe. For the first time since the days of Jefferson an American craftsman was supplying Europe with ideas and drawings, reversing a trend that had lasted a century.

Meanwhile, fewer American students went to the Beaux Arts; more Europeans came to America. Universities established schools of architecture. The American Society of Beaux Arts Architects founded ateliers. Architects were remarkably successful in producing simple, straightforward, and efficient structures as fast as the country's growing wealth demanded them. The functional principle resulted not only in the skyscraper but also in such buildings as the California bungalow, brilliantly carried out by Willis Polk in the graceful "water temple" at Sunol, California; in the low, spread-out high school saturated with light and air, complete with gymnasium, swimming pool, and athletic field and surrounded by trees, shrubs, and flowers; in the giant apartment building with porches, terrace, and garden, replacing dark tenement houses with long corridors and narrow courts; in the vast amphitheater with emphasis upon visibility rather than ornament; in factories completely freed from architectural precedent and subordinated to industrial and engineering requirements.

The evolution of modern functional architecture is well demonstrated by a few buildings standing in the middle of New York. Pennsylvania Station, built shortly after the first decade of the twentieth century, still followed largely what was known as the Roman imperial style. The Grand Central Station, erected at about the same time, while a far better engineering job, still has a façade of Roman imperial character. The increasing emphasis of the functional and the gradual abandonment of the ornamental can be traced through the Shelton Building in the middle twenties, the Empire State Build-



#### THE SKYSCRAPER: DESIGN FOR WORKING

The most efficient way to do business is to get people together. And when there are so many that they can no longer be concentrated on one plane, they can be concentrated vertically. Result: the skyscraper. With the setting back of the upper stories to admit light and air, it also offers an answer to the problem of communal living. A distinctively American contribution, the skyscraper has been described as "probably the most profoundly efficient and adequate conception of gigantic size ever created by man."

ing in the late twenties, and the R.C.A. Building in the early thirties. Europe copied many pages from the new book of American architecture. The English could have their beef hotter when the kitchen flanked the dining room. German villa owners luxuriated in two bathrooms. Austrian community dwellings out-straightened and out-smoothed the creations of Wright. The show windows on the Paris Boulevards grew to a size more often found on Fifth Avenue and LaSalle Street.

When the Woolworth Building, designed by Cass Gilbert, had gone up, it was considered the ultimate in skyscraper development. But a Finn, Eliel Saarinen, thought otherwise. In 1922 when two hundred and sixty designs were entered in the Chicago *Tribune's* competition for a high building, among them was found one novel idea. Instead of using the vertical form with straight lines and unbroken piers, Saarinen employed cubes and horizontal patterns without columns, cornices, or other ornamentation. The jury gave his design second prize but critics and craftsmen acclaimed it throughout the land. The time was auspicious. In 1916 New York had decreed an offset type of construction for high buildings. After Saarinen, strange structures resembling terraced piles of building blocks—giant Hopi pueblos—surged up in the largest cities.

## FURNITURE

At the end of the nineteenth century the welter of foreign influences to which the East had been subservient was challenged by a West whose patriotism had suddenly become articulate. Westerners clamored for a distinctively American style without realizing that they had one in their own back yard. From one of the old missions along the California Coast—its ruins long since undisturbed save by the cooing dove and the chattering tourist—a rugged chair and settee had found their way into the cellar of an Eastern collector. Hewn out of rough timber and joined together with mortise, tenon and dowel, without the use of either nails or glue, they were built low and sturdy to withstand earthquakes. The straightforward design of mission furniture in contrast to the curves and contours of the French Renaissance, appealed to a generation which attended to the business of living in a straightforward manner. Upholstered in red or brown leather, it looked impressive in hall, dining room and library, and lent dignity to the home.

With characteristic lightheartedness people discarded the things that had been dear to Grandpapa. The old-fashioned parlor to which access was generally barred, where silence reigned, and gloom stared the children in the face, where every place to sit was repulsive with mohair, with trumpery-clutching whatnot and marble-topped center table crowned with the family album—all was swept away by a fresh breeze from the Pacific.

In a mechanical age, pieces of furniture tended to turn into contraptions. Footstools popped out of Morris chairs at the push of a button. Beds disap-



peared into doors, with draperies across the head and foot to hide the terrible secret; self-contained as to bedding, they didn't have to be made over entirely each time they were used. An oversized sofa which blossomed out into a bed immortalized the name of A. H. Davenport. The trend toward standardization encouraged the prodigious development of mail-order houses and syndicate buying.

Unfortunately period styles had not lost their grip. Misinterpretations of Dutch Colonial, Sheraton, Hepplewhite, Chippendale, Adam, Queen Anne, and the three Louis, were still to be seen in many a home and store. The St. Louis Exposition of 1904 gave a cross-section of public taste. France sent over a halfheartedly modernized collection of museum pieces; the English were content to offer specimens of Jacobean and Chippendale. Grand Rapids displayed machine-made furniture of exaggerated colonial design resembling the Roman style of Bonaparte, minus the bronze. The Germans produced an abortive attempt at modernism, called "Secessionist," which extended to walls, floors, furniture, and curtains. Progressive designers were disheartened.

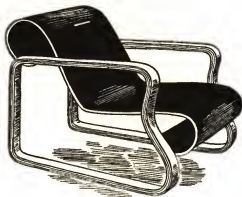
The Great War of 1914 put an end to the period of confusion by the simple process of all but stopping production. When peace was restored, however, demand shot up again, factories had a hard time filling orders, designers worked under such pressure that there was no time to think of style. A gigantic real-estate boom in Florida stimulated an interest in Spanish motifs. The perennial California boom produced the Monterey style which was no more than mission glorified.

Seven years after the Armistice, Paris held the "Exposition des Arts Décoratifs." America did not participate because in the words of President Coolidge: "We have nothing to contribute." But American artists and designers went anyway and were amazed by what they saw. While far from perfect, the first examples of "Art Moderne" were designed on entirely new principles: utter simplicity, unbroken lines, smooth surfaces; the structural motif was geometrical. Abandoning the cone and the triangle because they did not lend themselves either to the smooth line or to variegated shades, designers turned to the cube and the sphere, selecting as the most effective form the rectangle with elliptical curves. Colors were chosen for contrast rather than consonance. The principle that form follows function, originated by Sullivan and developed by Wright in architecture, now found its full expression in furniture.

"Modern Art" gained adherents among those Americans who appreciated the inconsistency of working at top speed all day in an ultra-modern skyscraper and then coming home to relax in a stiff, formal "period" interior. To the public in general the first specimens of Modern Art were revealed at the Grand Rapids Furniture Exposition of 1928. There would be a French bedroom of freak Honduras mahogany with hand-carved appliqué of boxwood, with a low dressing table and a glass mirror framed in dull brass; a

dining room of Palestine burl with mother-of-pearl inlays and trimmings of silver; there would be chairs upholstered in snakeskin. Light and dark woods—rosewood, macassar, ebony, snakewood, amaranth, tulipwood—were contrasted in such a way as to attract the eye and hold it without strain.

But the standardized manufacture of modern furniture designed by domestic artists unfamiliar with the new principles was a failure. Not until the Chicago Fair of 1933 with settings and color schemes by the Viennese artist Joseph Urban did modern art become established.



A PLYWOOD CHAIR

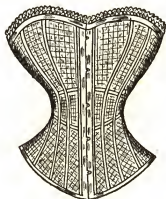
The world has changed considerably from the days of Chippendale and of William Morris, when a pint or so of sour cow's milk mixed with formaldehyde and a handful of laminated strips of wood suffice to enable the modern stylist to conjure up a living-room chair. Casein glue made possible modern plywood, whose use is extending from furniture to the wall or shell of the room itself.

With the revival of taste it became clear that the machine which could do so many things—veneering, cutting wood into thin slices for rectilinear patterns—better than man, nevertheless could not be trusted to turn out a fine piece of furniture without guidance. Its work must be prescribed to the last detail, and this could hardly be left to the manufacturer. As a consequence the third and fourth decades of the twentieth century witnessed a phenomenon: the re-emergence of the artist. Modernism was the revolt of the individual. Paul Frankl, a pupil of Frank Lloyd Wright and author of *New Dimensions*, a book which caused a furor, utilized as the basis of furniture design the horizontal line which Wright applied to his houses. An integral part of the room, bookcases, cabinets, and chests were low, without moldings, carvings, or other decoration. Beds became mere supports for spring and mattress with small panels, if any, for head and footboards. Couches, sofas, and chairs were low and broad, easy to handle and comfortable to use. Pictures must harmonize with rugs, books with ceramics, sculpture with hang-

ings, murals with the available light. By using closets in place of wardrobes, chests and vitrines, and by replacing hinged doors with sliding doors, rooms were made larger.

## CLOTHES

Woman's garb in the early part of the twentieth century was almost as far removed from that of today as the flounces and furbelows of the fifties.



A CORSET OF THE EARLY 1900's

"Constructed on scientific principles," this corset was offered in the Sears Roebuck Catalogue of 1899 at from twenty-five to ninety-five cents, including a lace top, and a choice of three colors, black, white or drab. Customers were instructed to take three or four inches off the body measurements when sending in their order.

If women were becoming emancipated, the female form was not. Corsets squeezed the waist down to a minimum, but permitted the rebellious body to bulge out above it in front, and below it behind, while tight-fitting sleeves, shoulders and bodice, above a generous skirt that belled out toward the bottom, accentuated the hourglass effect. The head was often kept stiffly erect by a whalebone collar.

A clearly defined figure bent into the shape of a letter S was supposed to be so fascinating that trimmings would be superfluous. Little by little, however, the severity of the costume was tempered: the height of the collar was not quite so marked; lace, embroidery, and eventually frills burgeoned at neck and shoulders; sleeves loosened, then began to puff out; epaulettes appeared. Stiff banding a yard above the hem was used to confine the skirt, whose circumference had by now reached six or seven yards, then the skirt itself began to shrink, while, at the other extremity, coiffures and headgear began to increase to prodigious proportions. Hats were heightened by bandeaux, plumes, and feathers; by wings and even whole birds. What could be

more effective on a hat than a life-size barnyard rooster, with its colorful tail feathers curving down over milady's neck? Lucky it was that the hats painted by Gainsborough on his ladies came into vogue, as observed by James Whitcomb Riley:

"Just the airiest, fairest slip of thing,  
With a Gainsborough hat, like a butterfly's wing,  
Tilted up at one side with the jauntiest air,  
And a knot of red roses sown under there  
Where the shadows are lost in her hair."

The trend toward large headgear was unaffected by the automobile. A woman would climb into a car that had neither top nor windshield, in a hat as large as a platter, firmly tied down with an enormous scarf. Neither could outside influences such as the Greek—which revealed itself in the preference for classic folds, and transparent tunics worn over the dress; the French, expressed in richly embroidered trimmings and in peacock, purple and yellow shades; or the Bulgarian, with its collarless peasant blouse with flowing sleeves, in any way interrupt the inexorable shrinking of the skirt, which by 1910 had reached the absurd circumference of thirty-two inches at the hem. Since its wearers had to hobble about as if they were taking part in a potato race, the binding of the hem began before long to be slashed, sometimes in front and back, or on the outside as high as the knee, with a small plaited piece of silk to fill in. Public ridicule, editorial vituperation, and warnings from the pulpit were not enough to shake woman in her pursuit of the new and daring as exemplified in the "hobble" skirt. A bill introduced into the Virginia state legislature to check its vagaries was voted down.

Luckily the skirt grew shorter as it grew tighter. From beneath the hem, the foot diffidently appeared, then the ankle, and finally the lower part of the leg. If Victorian conventionality was no longer satisfied, it was at least possible to get about.

The tailored suit retained its popularity, and was worn with a narrow skirt and a lace cravat. In dresses, heavy materials began to give way to charmeuse, mousseline, chiffon, silk mulls and poplins, moire, gabardine, and embroidered and printed crepes. From the Pyrenees came the basque dress, and perhaps the Russian Ballet with its oriental atmosphere helped the vogue of trouser skirt and jewel-trimmed turban.

The War of 1914-1918 had no immediate effect on fashions, but the strange genre that women adopted in the early twenties has often been attributed to it. Skirts shortened until they reached the knee, the chest was carefully flattened to look like a man's, hats were as simple as possible, with more than a suggestion of the helmet, and hair was bobbed. On a boyish girl of fifteen the result was not unpleasing; on a dowager it was grotesque.

The post-flapper period was distinguished by the first signs of a declaration of independence from French fashions. More attention was given to our Latin-American neighbors. The first American competition in designs for women's wear, held in 1916, revealed a strong interest in Mexican and South American patterns. It may not have been entirely a coincidence when,



AN EARLY TWENTIETH-CENTURY LADY

As compared with the age of the crinoline and the bustle, even this costume, worn in the early years of the twentieth century, shows a trend toward simplicity. While bodice and sleeve are full, and while the skirt falls in graceful fullness to the ground, rosettes and ruffles, frills and furbelows are beginning to disappear.

a year later, the Metropolitan Museum in New York opened a new textile gallery.

Men's clothes did not change very much; they simply became less formal. The dress suit and the frock coat are little different from what they were a century ago, but they are worn less often. The straight, narrow, round trouser, narrowing at the ankle, without crease or cuffs, has given way to the full-bottomed trouser, which has both. In 1900 the short sack coat was

buttoned high. It was replaced in 1904 by the long sack coat, which six years later was buttoned low, revealing a fancy waistcoat. Perhaps the most marked change was the disappearance of hair from the male face. Whereas at the turn of the century the photograph of a winning college eight would show as many sets of heavy, handlebar mustaches, and pious directors would go in for elaborate chin shrubbery, the American of today is usually clean shaven, and even musicians and painters look as if they had stepped out of the nearest corporation law office.

Two attempts were made to liven up the drab and inelegant costume of the twentieth century man. The first came from the world of sport: golfers and their friends appeared in long, baggy plus fours, elaborately patterned stockings with exposed fringed garters; light-colored sweaters. The second was conscious: for a time, designers succeeded in introducing tuxedos in dark blue shades. Several fashion experts fought the awkward stiff collar and tie, and persuaded some of their men friends to appear in public in specially designed costumes that were both comfortable and graceful. Interesting decorative possibilities were also being opened up by high school students, whose oilcloth slickers were decorated with signatures, drawings, and wisecracks, while their little brothers and sisters went around in T-shirts embellished with characters from the comic cartoons.

When men got out and stuck each other through with rapiers, they were not afraid to wear frills on their wrists. But the man who spends the better part of his waking life in a swivel chair avoids any hint of interest in beauty for fear of seeming effeminate. He dresses as much like a sparrow or a mole as he can, and stubbornly resists any efforts to improve his sartorial lot. Athwart his serge or broadcloth bosom falls the shadow of his Puritan forefathers.

## FOOD

The old leisurely way of eating was out of place in the accelerated tempo of modern life. A step in the direction of quick, cheap meals had already been taken in the nineties when a group of philanthropic women in Chicago opened a kind of eating hall where working girls waited upon themselves, choosing their menu from a limited number of ready-cooked dishes. It was soon copied. Impressed by the financial possibilities, the manager of one of these enterprises, Mrs. H. S. Mosher, in 1905 opened a crude "cafeteria" in Los Angeles with a cigar box serving as cash register. Newspaper accounts of how patrons precariously maneuvered their trays among the crowded tables made people in the East sit up and take notice. Before long the appearance of the American street was changed by such innovations as the cafeteria where the gobbler and the masticator were separated from the pedestrian by a mere inch of glass; the lunchroom whose glazed brick walls, enamel-top tables, and chairs with one broad arm for holding the tray made

washing-up easy; the automat, where a nickel in the slot would produce pie from a windowed cubicle, or coffee—followed by milk—from a faucet; the diner—which was at first actually a converted railroad car, later was built to look like one. The cafeteria even invaded the office building, the factory, the high school.

As mass production scored new triumphs, the family no longer gathered around the table three times a day for food and friendly conversation. The



SODA FOUNTAIN, HOLLYWOOD STYLE

In the old days a large gilt clock-face, a giant hand, or a pair of huge spectacles were enough to attract the attention of the passerby. Today he drives a swift automobile, and the enterprises that line the boulevard must assume bizarre forms lest they be overlooked.

old lunch and dinner clubs meeting once a week in the home of one of the members who spared no effort to display their culinary talents, fell into disuse. With the invention in 1923 of an oven capable of turning out five thousand loaves an hour, thirty times the existing rate, everybody began to buy baker's bread. No longer was the housewife kept busy canning, preserving, and pickling; baking cakes, cookies and pies. The choice of foodstuffs was unlimited, and advice on how to prepare effortless, delicious meals, crowded the newspapers and magazines. Grandmother's recipe book gathered dust in the attic.

One Sunday back in 1869 members of the Vineland church in New Jersey were pleased to find a few bottles of homemade grape juice on the Com-

munion table. From this pious contribution on the part of Dr. Thomas B. Welch, arose an industry. Factories in California and Florida produced fruit juices on an ever-increasing scale, especially as people came to know more about vitamins.

It was typical of this restless era that people didn't bother to get out of their cars to eat. Roadsides burgeoned with "hot dog" stands and ice cream parlors. Soft drinks were available even in service stations. But the triumph of American culture came with the Hollywood motorized restaurant, where pretty girls in skin-tight embroidered pantaloons brought hot meals on trays out to the waiting automobile.

## AGRICULTURE

At the turn of the century the farmer did practically all his tasks except one with the help of the machine. Potatoes were picked, hay carried to the



A MODERN TRACTOR

In fifteen short years following World War I, the tractor replaced some nine million horses and mules on the farms of America, releasing over sixty million acres of crop land and pastures. At the same time, the introduction of farm machinery opened up new horizons to persons hitherto engaged in agriculture. In the last hundred years, the proportion of the working population engaged in farming has decreased from three-quarters to one-fifth.

top of the stack, trees sprayed, corn husked, and trenches dug by mechanical power. But the machine had not yet replaced the horse. Two Midwestern college students, C. H. Parr and C. W. Hart, found a way to make the gasoline engine—which had made a success of the automobile—render service on the farm. Immediately upon graduation they opened a factory in Madison, Wisconsin, and after one year of labor brought forth a solitary tractor. Equipped with a huge single-cylinder gasoline engine of stationary type with a chain drive, it was so solid that it ran for seventeen years.

To prevent these monsters from sinking into the soil, their wheels were as much as eighteen feet wide; but in their wake the hard-packed soil would grow no crops. A Maine lumberman, Alvin O. Lombard, solved the problem in 1901 by applying the principle of the endless chain, which two years later was perfected by Benjamin Holt of California. In his "caterpillar" tractor



the front and rear wheels on each side revolved inside a continuous track consisting of a series of iron plates with lugs on them to grip the ground. Its ability to adapt itself to any kind of terrain later made the caterpillar tread as effective in no man's land as on the farm.

So heavy and powerful were the early tractors that they would have broken the ordinary plow to bits. And the stronger implements especially manufactured for them made farming expensive. Although well aware of their advantages, the small farmer could afford neither. It was not until automobile engineers turned their attention to the problem in 1912 that the light tractor was evolved.

In Lancaster, Massachusetts, in the middle of the nineteenth century, a curious child liked to cut figures on young pumpkins. He was delighted to find that, as the pumpkin grew, the figure expanded. Growing things fascinated him, and when as a young man he found in the village library a copy of Darwin's *Variations of Animals and Plants under Domestication*, he decided to devote his life to experimenting with them. One morning he found that one of his potato plants had produced a sort of tumor containing twenty-three seeds. He planted them all and one of them grew into the best potato he had ever seen. By concentrating his efforts upon the best seeds for three years, he evolved a super potato whose seeds he could sell for a hundred and fifty dollars. After him it was called the Burbank potato.

"I shall be contented if because of me there shall be better fruits and fairer flowers," he used to say in later years. The seedless orange, the thornless cactus, white blackberries, ever-bearing strawberries, gladioli with strong stems, and thousands of improved varieties of plants, trees, flowers, vegetables, grains, and grasses, testified to the fact that he accomplished his purpose. After adding more to the wealth of the United States than ever did the gold mines of California, Luther Burbank died a poor man.

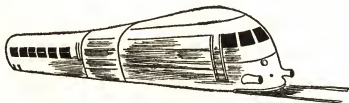
## TRANSPORTATION

With the coming of electricity, the clatter of hoofs and the tinkling bell of the horsecar were less frequently heard on the streets of Eastern cities. A former naval lieutenant, Frank J. Sprague, who had worked with Edison at Menlo Park, built an electric street railway twelve miles long in Richmond, Virginia, in 1888. By the early 1900's a messy tangle of overhead wires obstructed city thoroughfares; then trolley lines spread to the suburbs and even to other cities. As traffic increased, one or two trailers were added to the trolley car.

Then came "the elevated" and the subway. Built in 1878, the old New York Elevated which rattled its way past the occupants of second-story flats and lofts was steam-operated for a number of years. The first subway consisted of well-upholstered cars carrying twenty-two passengers through a tube nine feet in diameter and ran under Broadway, New York, for the mag-

nificent distance of three hundred and twelve feet. But by 1900 a subway was in operation which extended from Brooklyn Bridge to Broadway and 145th Street.

In the spring of 1880 Thomas Edison built a little railroad in the back of his Menlo Park laboratory. The rails carried the current to a twelve-horsepower lighting dynamo laid flat; driving power was transmitted from armature shaft to axle by means of pulleys. Within a few days he was planning a three-hundred-horsepower locomotive with six-foot drivers, "with the idea of showing people that they could dispense with their steam locomotives." A modern streamliner may have three thousand horsepower and is equipped



A STREAMLINED TRAIN

Knifing the atmosphere at speeds far in excess of the old mile-a-minute express, the modern, light, short streamliner borrows some of the stratospher's appeal to the popular imagination. On the inside, too, it has been redesigned along original lines to provide comforts not dreamed of a decade ago.

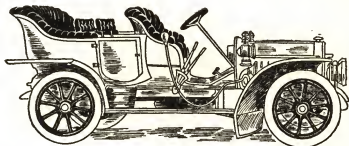
with heavy oil-burning engines driving generators. Built of stainless steel or a light aluminum alloy, the whole train—two hundred eighty feet long and capable of speeds up to one hundred and twenty miles an hour—weighs little more than a single car did in Edison's day.

Along with electrification, which made for smoother and cleaner running of trains, other refinements were introduced; individual reclining chairs, air conditioning, cocktail lounge, observation car with writing desks, card tables, barbershop, and stenographer. The old-fashioned corridor sleeper where one had to dress bent nearly double, began to give way to Pullmans made up entirely of one and two room suites with washing facilities and radio.

Electricity also made practicable the crazy dream of an Irish schoolmaster who had been reading of the engagement between the *Merrimac* and the *Monitor*. From Leonardo da Vinci down, imaginative men had toyed with the idea of a submersible vessel. The modern-day problem was that neither steam nor gasoline could be utilized because the question of a proper exhaust outlet had not yet been solved. Eight models did John Philip Holland build, before successfully submerging off the shore of Staten Island for an hour and forty minutes in 1898. One of the most destructive weapons of modern

war, the submarine of 1940 can travel three thousand miles and carry a crew of seventy.

Although electricity had helped the railroad, gasoline was proving a powerful competitor. The automobile had evolved from a cumbersome, expensive contraption, exposing its passengers to wind, dust, fatigue, and bumps, that was left in the barn in the fall and hauled out in the early spring, to an inexpensive, reliable, comfortable, smooth-riding vehicle that enabled man to get about as quickly as by rail, and still left him his independence. Everyone who could afford it bought a car, and many who couldn't. During the war of 1914-1918 many automobile owners who wanted to turn an extra penny would



AN EARLY AUTOMOBILE

Although after about 1905 the automobile design had evolved beyond the horseless buggy, some models still carried a whipsocket on the dashboard. They had oil lamps; the floor was covered with carpet; and tires were generally solid.

take passengers for a "jitney," or five cents. One Carl Eric Wickman charged twenty-five cents for the round trip between Hibbing, Minnesota, and the neighboring town of Alice. Business was good, and he took to using special bodies mounted on a truck chassis. Twenty-five years later buses were running from coast to coast, equipped with upholstered armchairs for as many as thirty-six passengers, with luggage compartments beneath the floor, and a water cooler in front. Harking back to the early days of the railroads, there are noon and evening stops of half an hour for meals. Sleeper-buses have compartments with beds for five passengers in each and washrooms in the rear.

On a chilly morning in December, 1903, a man crawled into as strange a contraption as had ever been devised. It had two slightly curving wings, thirty feet long and four feet wide, braced with vertical sticks of light wood and bamboo, fastened with wire. A twelve-horsepower gasoline engine weighing one hundred and thirty-nine pounds was set in the center of the lower wing, which rested on a pair of runners. The men from the near-by life-saving station did not know what to make of it. Nor was the man who lay

flat on the lower wing, his hands on the controls, or his brother standing beside the machine, any too sure that it would fly. That morning the Wright brothers succeeded in flying a hundred and twenty feet.

It took the war of 1914-1918 to bring the airplane to a point where it could be used as a regular means of transportation. At that, airports were far from town, and one could often reach a near-by city as quickly by train. But the airplane proved itself on long flights, and its success was assured with the establishment of airports and facilities for night flying. Although the modern streamlined duralumin plane's four fifteen-hundred-horsepower engines, weighing hardly more than a pound per horsepower, can pull it through the



ONE OF THE EARLIEST AIRPLANES

Before building a machine which could raise itself into the air by its own power, Orville and Wilbur Wright made thousands of tests in a homemade wind tunnel and for several years experimented with gliders. By 1906 they could produce a plane with a speed of forty miles per hour; a passenger capacity of two; and a range of a hundred and twenty-five miles. This is a 1908 model.

ether at two hundred and fifty miles an hour, with a load of seventy passengers by day and thirty by night, it is still not being used by more than one traveler in a hundred.

In a period of sensational developments, ocean vessels progressed slowly. While the *Majestic* had made maritime history as far back at 1891 when she crossed the Atlantic in 5 days 18 hours 8 minutes, it took another half century before the record could be substantially bettered. During that time the turbine was introduced, steam pressure increased, and the bulbous bow and streamlined superstructure was evolved, combining to enable modern express liners, such as the *Normandie* to make the crossing in 3 days 22 hours 7 minutes in 1937. The tonnage of the individual express liner increased to the incredible total of eighty thousand, and it became luxurious beyond recognition. Swimming pools, racquet courts, movie theaters, synagogues, night clubs, glass verandas, shops, sweeping decks, and vast interiors served to keep the good salt smell of the sea at a safe distance.

Spinning its web thicker and thicker, science developed communications

to a point where not only individuals were brought into contact with each other but also where millions all over the country were gathered into a single audience. Having, with Morse and Bell, served useful ends, electricity now became a vehicle of entertainment.

Faraday and Hertz had shown that while rays of light will not pierce a wall or a thick fog, electrical vibrations will. And Marconi, using a Morse key, had succeeded in sending waves through the ether which could be picked



A MODERN MILK TRUCK

"Transportation is civilization," said Rudyard Kipling, and it is certain that modern civilization is dependent on efficient means of transport and supply. Giant trucks bring most of our milk from farm to city; others bring more than half our eggs, livestock, fruits and vegetables.

up by a sensitized detector. To avoid interference, he put long wires high in the air at sending and receiving stations. Nevertheless, reception was neither clear nor loud until an American radio engineer, Lee De Forest, discovered that the use of a small metal grating rendered signals clear, and that a vacuum tube permitted an increase in volume almost at will. It now became feasible to communicate with ships at sea, and across the ocean itself. More, the tube he invented was capable of setting up continuous waves which could transmit the pattern of the vibrations of the human voice through the ether as is done over a wire in the case of the telephone.

The War of 1914-1918 made the rapid transmission of messages a matter of the highest importance. Radio was stimulated. Already, on May 13, 1914, Wanamaker's in New York had sent music from a phonograph out into the ether, and it had been promptly picked up by Wanamaker's in Philadelphia. But in 1915, the human voice voyaged over the air waves from Arlington to Honolulu.

One day in 1920 engineers in the transmitting station of the Westinghouse Company grew tired of the interminable round of announcements. For a lark they decided to intersperse a few songs and instrumental music. After a few moments of this, the announcer would timidly ask: "Did you hear us? Did you like it? Perhaps you would like to have more of it?" Born of monotony, the idea they had that day was destined to bring entertainment to millions. Within two decades the radio had become such an integral part of

American life that housewives listened to it while making the beds, motorists while touring, and school children while doing their homework.

Does a galloping horse sometimes have all four feet off the ground? To settle the question, one Eadweard Muybridge in 1872 placed twenty-four cameras along a stretch of the Sacramento race track. Before proving that a horse does, thereby enabling Leland Stanford to collect a handsome wager, he had used up half a million plates. While others at home and abroad had mulled over the problem, this was the first practical approach to showing an object in motion.



#### A TRANSATLANTIC CLIPPER

In the day of the great, winged sailing ship, American clippers swept the seven seas. In the day of the great, winged flying boat, American clippers are sweeping the air above those seas. For flying to Europe, South America, and the Orient on regular schedules, an all-metal, double-decked monoplane flying boat is used with an overall length well over a hundred feet and a wing span half again as great, powered by four 1,500 H.P. radial motors. Super strato-clippers are being planned to cross the Atlantic in six hours.

Inventors got busy. But as usual it was Thomas Edison who turned up the winning trick with his kinetoscope, consisting of a series of very small photographs arranged consecutively around a drum. The spectator turned a crank and looked in through a small window—which gave rise to the name “peepshow.” For one seven-thousandth of a second an electric spark illuminated the individual photograph; too short for the human eye to be conscious of any break. Some of the managers of the arcades where the peepshow invited the passer-by’s penny, became the kings of a giant industry.

In spite of Edison’s success, other inventors had stuck to their benches. One of those who made an important contribution to the development of the “motion picture” was a stenographer in the Treasury Department who liked to spend his spare time cutting ordinary Kodak film into narrow strips which he spliced with a cement of his own concoction. After three years C. Francis Jenkins went back to his folks in Cincinnati to show them a machine which, operated by an electric motor, unwound the film from a spool and halted each picture for an instant in a beam of light, which threw its magnified image on the wall. It was a mechanized magic lantern. The film showed a couple waltzing in a Washington Hotel. Mother was shocked but

history has reversed her verdict. At the end of the first decade of the new century the movies had firmly established their popularity.

*The Birth of a Nation*, produced by D. W. Griffith in 1913, marked the birth of the long dramatic picture. The introduction of speech fifteen years



A TRAFFIC LIGHT

In the machine age, the traffic policeman is replaced by an automatic signal. And in a city where the streets intersect each other at right angles, north-and-southbound traffic moves as a unit, while east-and-westbound traffic waits, and vice versa. Such regimentation would have surprised the hack-drivers, butcher-boys, and coachmen of an earlier day, but the modern man is willing to sacrifice his individuality where human life is at stake.

later raised the cinema potentially to the level of spoken drama. With color, these pictures, which until now had been as shadows dancing on the wall, leapt into life.

## INDUSTRY

The things that man had devised to make his life less burdensome had now been developed to a point where the pattern of his life was shaped about them.

Skill had lost its meaning. The skilled worker, once master of his tool and thus able to express his individuality, is today part of the machine and trained to obey its dictates without question. Even inventions, which at the end of the nineteenth century were linked with names—Edison, Eastman, Curtiss, Steinmetz, De Forest, Wright—now became anonymous and were turned out for the fame and gain of a corporation.



A PNEUMATIC RIVETER

In the polyphonic conglomeration of city noises, the rasp of the riveter never fails to make itself heard. It often means that another apartment skyscraper is going up at a record rate. One of the joys of riveting, it seems, is trying to catch a hot rivet tossed by a fellow worker when you are astride a steel girder thirty stories above the ground.

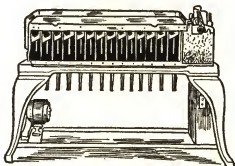
Practically all the inventions which led to the tremendous expansion of industry in the twentieth century, had their origin in the nineteenth. Simon Ingersoll came to New York in 1871 with an innocent little invention tucked under his arm and ended up, after bumping into a contractor on a trolley car, by inventing a mechanical drill which was driven by steam. With the substitution of air for steam, the pneumatic drill was soon used wherever metal or mineral resisted man.

In the eighties, Benjamin Franklin Sturtevant devised a suction fan, because workers in New England shoe factories complained of the dust and dirt raised by his machine for stripping logs and cutting them into pegs. Sensing the possibilities in putting air to work, he gave up the peg-making business and concentrated on blowers and fans. They removed dust from coal crushers; shavings from sawmills; metal chips from machine shops; and gases from



chemical plants. Not satisfied, this imaginative Yankee put suction fans in conveyor tubes which moved grain, wood pulp, cotton, and rags as if by the magician's wand. Still looking for new fields, Sturtevant turned his attention to the conditioning of air. But half a century had to pass before anyone understood what he had been talking about.

At the turn of the century Adon J. Hoffman, an apprentice tailor in Syracuse, New York, having lost the use of his arms, invented a machine for pressing clothes, consisting of two pads forced together by steam pressure, and actuated by a foot lever. A man who had been caught in the rain was his



A MECHANICAL BRAIN

This electric card sorter symbolizes the marvelous efficiency of the "business machine," in doing much of our routine "thinking" and "remembering" for us. When fingerprints are turned in to the Federal Bureau of Investigation, a machine like this runs through thousands of cards in a few minutes and identifies their possessor. A "business machine" is even used to grade school papers.

first customer, and so impressed was he with the invention that he organized a company which sold thirty thousand machines within five years.

But the most important discoveries were in the organization of work. The owner of an Ohio machine shop, Walter E. Flanders, rearranged his benches in such a way as to eliminate unnecessary effort, and laid out one of the first production lines. Then he went to see Henry Ford, who, as luck would have it, had difficulty in getting crank shafts quickly. Ford placed a trial order with Flanders, and saw it filled within a surprisingly short time. Later when he wanted to make ten thousand cars a year, he hired Flanders as production manager. Mass production became a reality.

Where the product had been stationary with the worker moving about it, now the worker remained stationary and the product was brought to him. The intricate and cumbrous process of casting cylinder blocks in the Ford plant took place on moving platforms which passed one worker after another, each one doing an essential operation until the completed product was ready for the assembly line. Huge presses would cast four or six cylinders in

one block; multiple drills would bore them all at once. Down to the smallest nut or bolt, all parts were made uniform.

As machines grew bigger, more power was needed. Charles Gordon Curtis perfected the steam turbine, thereby making millions of horsepower available to drive generators and propel battleships.

### LIFE IN THE COMMUNITY

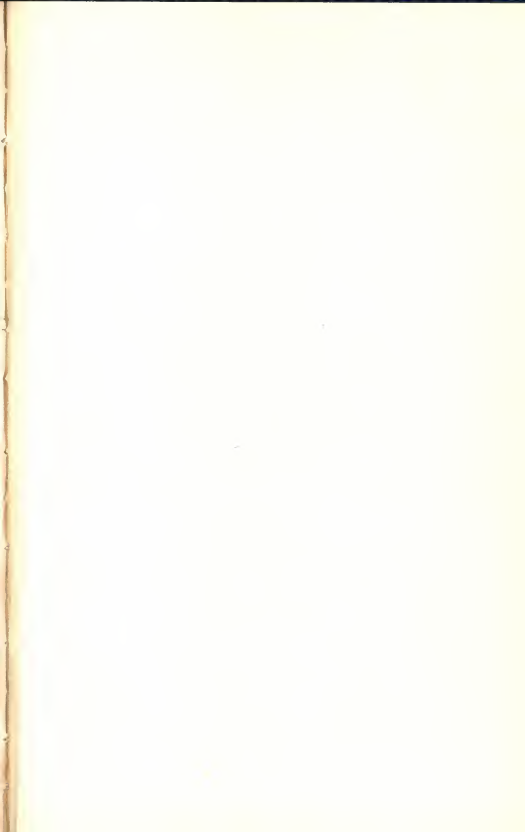
At the beginning of the nineteenth century Thomas Jefferson looked forward with horror to a day when people would be "piled high upon one another in cities." At the beginning of the twentieth his fear had come true. Less than half of all the American people continued to live on the land. New York, which counted its people by the tens of thousands a hundred years before, now counted them by the millions. Chicago—an outpost of soldiers and trappers when the railroad reached it—was now one of the largest cities. In every part of the country villages expanded into full-fledged cities at an amazing rate.

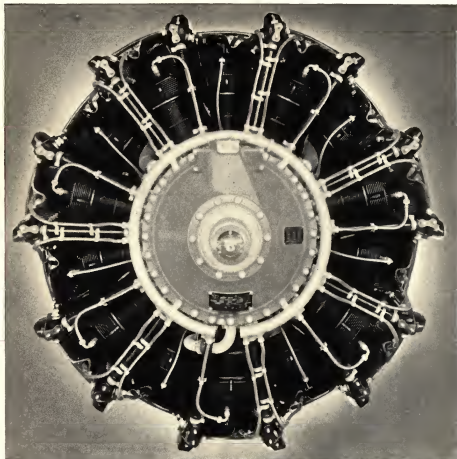
Crowded, streets came to life. Beneath a tangle of wires, under suspended gas globes, and amid a welter of garish advertisements, people nervously increased their pace. Now that they could choose between slow and speedy means of communication—horsecar, electric trolley, subway, elevated—the saving of time assumed in their minds a supreme importance. Thus began the reign of *Tempo the Great*.

If adults found the new life bewildering, what of the children? The feeling was widespread that the old European training was inadequate. In seeking a solution, American thinkers discovered the American child. Granville Stanley Hall applied psychology to education; his study of adolescence aroused interest throughout the world. John B. Watson tried to explain that most human actions are only the result of a group of habits, or "conditioned reflexes." A Yankee sage from the hills of Vermont taught a new kind of pedagogy in his experimental school at the University of Chicago. Children should not learn how to talk about things but how to do them. The rigid pattern of formal schooling is out of step with the industrial age where the machine makes for constant changes. John Dewey's teachings had a great influence.

Schools began to offer commercial and manual training. Congress voted aid to the states for education in agriculture, industry, and home economics. Young people thronged to schools where they could learn—in the evening as well as by day—how to handle a lathe, keep a ledger, work a slide rule, and how to trace a short circuit. Other specialized schools arose: for the blind, the deaf, the crippled, the backward, and the aged; for immigrants, and even for parents.

With this tremendous emphasis upon education, more parents wanted their children to go to high school and college. From a few thousand in 1900, the





*Courtesy of the Curtiss-Wright Corporation*

#### EYE-FILLER: AN AIRPLANE ENGINE

There is beauty in any creation of man which is perfectly adapted to the purpose for which it was intended. It was Norman Bel Geddes who drew attention to the analogy between the front view of a radial airplane motor and the rose window of a Gothic cathedral. Many designers believe with Geddes that "the desire and craving for objects of good design is increasing rapidly in the mass of the people." Indubitably satisfying to the eye is this photograph of a 1700-horsepower radial engine.

number of high schools grew to twenty-five thousand a quarter of a century later. The little red schoolhouse had grown into an imposing Georgian building equipped with auditorium, gymnasium, and swimming pool, and surrounded by playing fields. Universities became sprawling and complex; in hallowed acres and halls of learning thousands of middle-class boys and girls gathered from farm, town, and city, presumably eager for knowledge.

Specialization entered the field of medicine. The old family doctor, with his buggy and his black satchel, gradually gave way to the efficient specialist with an elaborate office, secretary, nurse. Where his predecessors had been obliged to go to Vienna, Berlin, Paris, and London to hear Billroth, Virchow, Charcot and Cooper, now he was efficiently trained in his specialty at Johns Hopkins and Harvard.

Though America may have been one of the last nations to provide adequate training in medicine for men, it was one of the first to provide it for women. The first Woman's Medical College was opened in Philadelphia in 1850. However, it was not until fifty years later that women in medicine really became recognized.

Due in part, no doubt, to the native predilection for iced drinks the United States established world-wide pre-eminence in the field of dentistry.

The greatest single contribution of the twentieth century to medicine was the emphasis on prevention rather than cure. Sanitation and hygiene became as important as surgery had been in the nineteenth. Soap, sanitary towels, and drinking cups made their appearance in office, factory, and places where people gathered. The control of milk by bacterial tests; the Federal pure food and drugs act; compulsory medical inspection in schools, and chairs and courses in public and industrial hygiene, all helped in promoting the principle of prevention.

Not always beneficial in its influence, industry nevertheless made it possible for wealth to come to the aid of medicine. John D. Rockefeller and Andrew Carnegie established huge foundations to disseminate information and promote research.

Meanwhile, surgery was not marking time. A student of medicine named Fred H. Albee was interested in carpentry. Why not, he thought, use drills, saws, and cutters to repair the human body? After years of design and experiment, he perfected tools enabling him to saw a piece from a man's shin bone which was used in mending a fracture. Thereafter, bone grafting became widely used. Harvey Cushing made an important contribution to the surgery of the brain; John Benjamin Murphy simplified the technique of abdominal operations; Thomas H. Morgan added to our knowledge of heredity.

As medicine went on to solve all kinds of problems connected with the body, a new disease arose. The strain of keeping up with the tempo of modern life was hard on the nervous system, and the minds of many gave way. As a result, the study of the mental make-up of man has acquired a new significance.

Escape from tension was found in sport. It was a long time since Oliver Wendell Holmes had written of Boston society: ". . . such a set of black-coated, stiff-jointed, soft-muscled, paste-complexioned youth as we can boast in our Atlantic cities never before sprang from loins of Anglo-Saxon lineage. . . ." In 1880 a game called "Sphairistike" in which a ball was batted back and forth across a net with racquets, became popular, although gentlemen did not consider it strenuous enough to require the removal of their headgear and solemnly pranced about in high silk hats to the delight of their feminine partners. After an American champion, Dwight F. Davis, had in 1900 offered a silver cup for matches with the English, clubs were formed, courts, nets, balls standardized; and "Tennis" became a favorite sport.

A young Philadelphia artist, back from an expedition into the Louisiana Territory in 1819, showed his friends how to handle bow and arrow. While archery was an established sport by 1879, another thirty years had to pass before co-eds and chatelaines took it up in earnest.



A JAZZ PLAYER

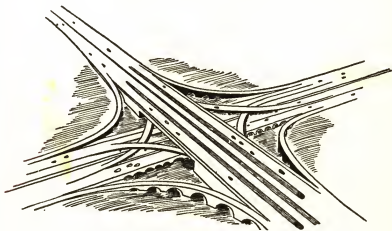
The twentieth century would be almost unthinkable without its undertone of jungle rhythm. To the musical genius of the Negro race, America owes a vital, spontaneous folk-art, one which has swept the world.

The roller skate, like our *Mayflower* ancestors, came from England and, after an earlier flurry of popularity, became a national craze in the early part of the twentieth century. The first modern Olympic Games in 1896 stimulated athletics. Two years before, the first national golf championship at Newport, Rhode Island, had attracted only thirty competitors. Since then golf has become the favorite sport of the American business man and is played on elaborate courses all over the country. But most popular of all were the games which could be watched by fifty and a hundred thousand peo-

ple; baseball and football. In keeping with the spirit of the day, they became highly commercialized.

Even the theater became the "show business." Charles Frohman, who hailed from Sandusky, Ohio, and had winning ways, strung theaters together like pearls. He developed more stars—Maude Adams, Billie Burke, Ethel Barrymore, Otis Skinner—than any other promoter; his salaries to more than ten thousand employees added up to over thirty-five million dollars a year. His great rival, David Belasco, surpassed him in the lavish presentation of stage effects. While serious classical art spread through the land, was cultivated by many a private group, and found fertile soil in colleges, the public by and large preferred the offering of Frohman, Belasco, and the Shuberts, and the superlative "leg-shows" of Florenz Ziegfeld. But even Broadway's grandeurs proved evanescent under the impact of radio and cinema; and the tradition of the American revue was kept alive largely by such mass manifestations as the Rockettes.

Progress also went on behind the scenes. In 1888 an American actor, playwright, and painter with a mechanical turn of mind, named Steele MacKaye, installed a double elevator in the Madison Square Theater, New York, to accelerate the moving of scenery, actors, and costume. More effective was the importation from Japan by way of Germany of the revolving stage, which made it possible to prepare entire sets behind the scenes without interfering with the progress of the play. In the course of time, discoveries were made in the field of lighting, scenic design and the architecture of acoustics.



## EPILOGUE: The Next Hundred Years

HAVE you an "electric pig" in your kitchen to grind up the garbage? Do you eat strawberries out of season, grown in a chemical solution? Is your home guarded by an "electric eye"? Has your radio a facsimile printing attachment? Does your car have a continuous gear ratio? Do you use the kind of film in your camera that makes it possible to take difficult indoor pictures with an ordinary lens? Have you seen any stereoscopic or three-dimensional movies? Have you air conditioning in your home? Have you ever ridden in a helicopter or an autogiro? Do you pick up the telephone at your elbow and call Hobart, Tasmania?

All these and many other things are possible today but do not figure in the everyday life of most of us because of excessive cost, our own habits, and the resistance of persons who might find themselves out of a job, and the inertia created by heavy plant investments. With regard to the latest technological developments, the average person lives twenty or thirty years in the past.

Now this carries an important implication when we try to imagine what the future will be like. Roughly speaking, it means that the everyday things of the near future are the rich man's toys of today: television sets, autogiros, portable air-conditioning units. And the everyday things of the somewhat more remote future are at present in the laboratory stage: rocket propulsion, cold light, the unlocking of the latent powers of the atom.

The past bears this out. Prophets such as Edward Bellamy, who wrote *Looking Backward* in 1888, S. C. Gilfillan of the Chicago Museum of Science and Industry, and Steinmetz, who based their predictions on a knowledge of contemporary science and were not lured astray by sensationalism of the Sunday supplement variety, turned out to be amazingly accurate. So, if you want to know what the future will be like, look about you.

There have been interesting discussions by persons in a position to know, as to whether the world would change as much in the next fifty years as it did in the last. To this there are two answers. First of all, due to the rate of progress in science and industry, fifty years today, as expressed in the things around us, is the equivalent of several hundred years in the past, and the rate is likely to increase. So our everyday life will probably change a great deal.

But there is another way to look at it. In the twentieth century the machine



has come into its own. Material life is becoming a thing of tubes, stainless metal, glass and rays, ruled over by engineers and mechanics. In this way the life of man is profoundly different now from what it has been since the dawn of history. And it will continue to change in this direction. So, viewed in the light of history and of the type of material civilization in which we live, there will probably be no greater change in the next half century than there was in the last. Science will still be king.

Yet, there will be one important difference. In the age of steam, machinery was cumbersome. It drew man out of the home, away from the family. It destroyed his values, and tended to destroy him too. In many senses it was his master. But as we advance further into the electric, aluminum and plastic age, machinery becomes so efficient that it recedes into the background. It becomes what it was meant to be, man's servant. It brings man back into the household. It is the opposite of cumbersome; it is light, almost graceful. Wires and poles vanish. Noise and dirt disappear. Furniture dwindles. Clothing shrinks. Appliances for heat and light tend to become part of the wall. The house itself, thanks to science, tends to become part of the landscape. Man is given back to nature.

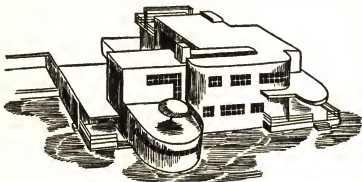
It is when we come to the architecture of the future that we find the clearest hints of a possible better world. But before analyzing the house of the 1990's, let us try to imagine where it is likely to be placed, and what its background will be.

The city is a thing of the past. It was created before the automobile and telephone, and—alas!—before the night bombing plane. The city came into being so men could easily and quickly reach each other and conveniently exchange each other's services and goods. That was over three thousand years ago, and the city continued to evolve during the age of horse locomotion and the infancy of the machine. Now it is outmoded. The instantaneous transmission of sight and sound, and rapid, cheap transportation, make it as much of an anachronism as the antediluvian monsters who perished because their shell was too heavy for them.

Decentralization is the new order of living. And there is every indication that the new decentralized communities will be elaborately planned, carefully integrated. Such communities already exist. Vanished is the old city block; the new is larger and follows the contour of the land. The houses are on the outside of the block, facing inward onto a park full of gardens and playgrounds where children are safe from traffic. Underpasses communicate with other blocks. Pedestrians and drivers never meet. In the hub of the integrated neighborhood is the community center—surrounded by athletic fields, tennis courts and swimming pools—with its post office, bus terminal, schools, library, inn, theater, shops. It would also have a television transmission station; an auditorium with color and three-dimensional sight and sound television re-

ceiving set; trailer camp; vegetable factory; poultry factory; and plant where garbage is converted into fertilizer.

Architectural trends in the house of the future, as in that of the past, will correspond to the owner's taste and ability to hire an architect with creative vision. That the purse of the future will be streamlined, there is little doubt. But there will probably still be people on the one hand who can afford to make of their home a work of art, and on the other, people who want what is most convenient and practical for the least money. As in other ages, it is



**A HOUSE OF THE FUTURE**

For three thousand years, houses have consisted essentially of walls supporting a roof. Today, the roof is becoming a terrace and the walls, relieved by modern skeletal construction of their original function, tend to become little more than a sheath. By the same token, they are left undecorated. Instead of a problem of mass, future architecture will be a problem of "space organized for use."

the house as a work of art which tells more about the culture of its period.

And here is where we find the machine giving man back to nature. Dwellings of all eras up to this have been designed to give an impression of volume. But in the conception of a pioneer like Frank Lloyd Wright and his successors, the future dwelling is so translucent, neutral, and fragile looking, so broken into planes by terraces and porches, that it gives the impression of being no more than a part of the out-of-doors which has been etched into the frame with a few strokes of a sharp pointed pencil.

A long, low, flat-roofed building would be made of a cluster of prefabricated units, arranged irregularly in order to avoid monotony.

In the construction of the house the use of wood, brick and plaster may well be superseded by panels of beryllium alloys and magnesium; flint glass admitting ultra-violet rays, and other glass-like materials; and sheet materials such as asbestos cement.

Synthetic building stones of cement, in all forms, colors and textures, have already made their appearance. White, resistant cement is used for terrace

floors. Roofs are laid with fire-, rot- and weather-proof asbestos felts. Aluminum is used for terrace rails and Venetian blinds, copper for flashings. Non-slip metal alloys will be available for stairs.

If not the wall itself, the strawboard and fiberboard that line it may be made of various types of thermoplastic resin derived from the soy bean, sugar cane, wood pulp, flax seed, fruit pits, nut shells and other materials for which today only too often no better place can be found than the garbage can.

Considerable use will probably be made of sliding partitions and panels which make it possible to enclose a small space when privacy is required, and give plenty of room when needed. Insulation—such as “mineral fluff,” aluminum foil, or fiber glass—would be built into the prefabricated panels. Windows, too, of stainless steel, will be prefabricated. Welded houses or welded units are already making their appearance.

To the man of moderate means—and who does not consider himself as such?—the small prefabricated house, once it is produced in quantity, will come as a boon. Ever since man built himself the first rough house the same formula has been followed: sand and stone hauled to the site, lumber ordered partly sawed to fit the measurement, and partly sawed on the spot. A number of unknowns and variables—the weather, the season, the condition of local labor—made the building of a house somewhat of a rule of thumb, trial and error procedure.

The house that rolls off the assembly line by the thousand in some giant factory suffers from none of these disabilities. The day may come when enterprising citizens will trade their houses in every so often against a new model.

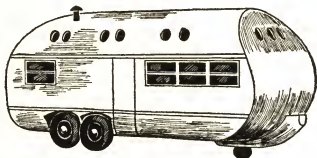
The walls, floors and ceiling units of some prefabricated houses consist of sheet steel on both inside and outside, welded to vertical sections. This provides the shell, but in other types the entire house is prefabricated in the form of a welded steel frame to which are attached the wall sections and electrical fixtures, door frames, doors, window frames and windows being built in, as well as the insulation in the outside walls. The floor is supported by a steel deck.

These houses tend to be flat-roofed, and the panels and units may be shifted around to suit various types of design. The addition of extra rooms presents little difficulty.

What of the mobile home? The trailer of the future will probably be even more successful than that of today in compressing most of the conveniences and some of the inconveniences of modern living into a space up to six feet wide and twenty-five feet long. Across the entire width of the trailer, front and rear, are divans which can pull out into comfortable double beds. Under one of them the family bathtub may be hidden away. A drop leaf table opens out from the wall before the front divan for eating, writing, and bridge. Garments, books, fishing rods and skis are all neatly tucked away in narrow

cupboards and shelves. Radio and television set are built in. A telephone communicates with the family car, or, when in camp, with the outside world. The kitchen is in the middle over the wheels; the stove, the refrigerator and all the other gadgets are operated electrically from a small but highly efficient generating plant. Air conditioning, heat, and light derive from the same source. "Dry soap," which enables one to wash without the use of water, is available, but there is also a capacious water tank on the roof.

In the trailer of the future it will still be good form to leave behind your grand piano, harp, or bass fiddle, but some are already being designed which,



A MODERN TRAILER

Like the snail and the gypsy, modern man, if he is so minded, can take his house with him. Despite the exigencies of civilization, the American has not lost his love of the great open spaces. A leading statistician avers that within twenty years half of our country's population will be living in trailers. This is a "mobile house," with four rooms on two floors.

at the press of a button, open out into little three- or four-room houses. This is done by means of hydraulically operated panels, or an accordion-like arrangement of light but strong synthetic leather panels, on stainless steel ribs.

The furniture and furnishings of the home of the future clearly indicate the trend of machinery and equipment to efface itself, and "give man back to nature." With its terraces, loggias, sun rooms and roof gardens, with sliding panels and walls, it will be hard to tell where the abode begins and the landscape ends.

Nowhere is this better illustrated than in the modern, scientific way of dealing, inside the home, with such essential environmental factors as the air we breathe, the sounds we hear, the light which makes it possible for us to see, and the heat which protects us against the rigors of the climate.

Take air. There is little doubt but that in the future there may be some kind of air conditioning outside as well as inside the house, so that in the middle of winter you will be able to step out onto the porch or even into the garden in the flimsiest of lounging garments. And the air which enters the house will not resemble the dirt and fume-laden urban atmosphere of today. It will

have passed through a dust filter and be freed of germs by the action of ultraviolet rays. Research into the effects of electrical ionization, barometric pressure, condensation, and the efficient use of oxygen will have made it possible to supply air as bracing as that of the seashore or the mountains. Its chemical composition will be calculated to give a maximum of refreshment at night, while during the day its temperature, humidity, and degree of ionization will be automatically varied to avoid the stultifying effects of monotony. And synthetic air, long considered fantastic, will be near realization.

Thanks to the increasing efficiency of the machine, the city of the future will be comparatively noiseless. Such few sounds as remain will be carefully filtered at the intake ducts of the air-conditioning apparatus, and if any discords and jangles should still succeed in penetrating into the room, they will be deflected toward the ceiling by the walls, which slant gently upward like the glass windows of radio broadcasting control rooms. There they will be absorbed by special insulation.

As morning comes, even though it may be dark and rainy outside, the room will gradually be flooded with diffused artificial light, accurately measured by a watchful photocell. On sunny days, when clouds pass by overhead, the light in the room would remain constant. It might be provided by an extremely efficient type of gaseous discharge lamp, perhaps employing carbon dioxide. These lamps would contain as high a proportion of infra-red and ultra-violet rays as that of the brightest summer sun. And within the next hundred years scientists may have caught up with the humble glowworm, and be able to produce "cold light," or synthetic luciferin, completely efficient, requiring no electricity, or wiring.

Even if still in use, the lamp, like all other appliances, will tend to disappear from view. Lamps will hide themselves along the ceiling, along the floor, inside walls and shelves, under table tops, and in the arms, sides, and backs of chairs. Light will be so evenly distributed that one will not be conscious of its source.

Heat may be provided by the simple process of running the refrigerator in reverse, or it may be diffused by wires embedded in the ceiling and wall surfaces. The radiator, you perceive, has also gone—although some people may like movable self-sufficient steam radiators that can be run into a closet when not in use. And if you are cold-blooded, it will be possible to slip on an electric vest or a lounge suit which will warm you up in a jiffy provided you don't forget to plug yourself into the wall. The electrically heated mattress is equally practicable. The use of liquefied petroleum gases such as propane, butane, and pentane will probably be more widespread than today.

Such a description of a future interior in many respects reads like a description of a highly efficient laboratory or operating room. And so it will be. Science is king. The most important articles of furniture in the home in the Age of Power are complex mechanisms thought up by engineers and only repa-

rable by technicians. Great-grandfather, who was pretty spry at whittling and sawing out what great-grandmamma needed, would scratch his head in bewilderment before a facsimile recorder that had somehow gone wrong.

The place of honor in the future living room will be accorded to the television set. All clocks will be timed by radio. The bathroom, whether it is wheeled from room to room or grouped with three other exactly similar ones in the center of the house to simplify plumbing, will resemble a control room of some kind. Tub, shower, basin and toilet will form an integrated unit, with special metallic walls for the outer casing. The kitchen, too, unless all food is synthetic and prefabricated, will have a severely technical aspect. Here the machine will stand more frankly revealed. The gleaming electric range and ovens—capable of roasting by induction so that every part of the leg of mutton is cooked to the same extent as the other—will combine in a single unit the broiler, coffee grinder, mixer, toaster, water heater, and probably the refrigerator, too. Its sink will house the dishwasher; the “electric pig” to grind up the garbage and wash it down the sewer; the washing machine and automatic ironer.

Some clever engineer should design a one-room apartment in which everything the modern man needs is done for him at arm's reach by machinery: cooking, serving, washing; sewage and garbage disposal; the purveying of news and entertainment. At which point the modern man would only need to crawl into this super machine and die, thereby starting the automatic cremator.

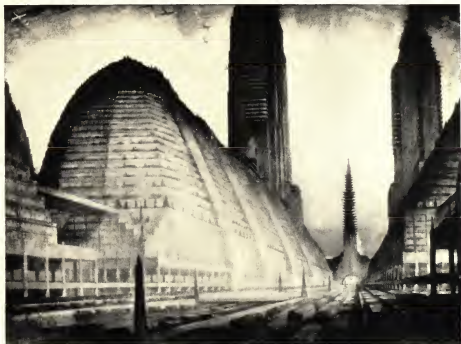
Typical of the future home is that amazing servant, the photoelectric cell, or “seeing eye,” which in addition to measuring the amount of illumination needed, opens the garage door as you drive up, opens the door between the kitchen and dining room as you glide—or skate?—up with a tray, opens the refrigerator door, and opens and closes the windows. All night long it can stand guard as a night watchman, ready to give warning by ringing bells, turning on floodlights, photographing the intruder, paralyzing him with tear gas, and sending for the police.

Like the machine and the gadget, furniture will tend to grow less conspicuous. Low and creepy, it will all but burrow into the floor. All in horizontal lines, it may well arouse a desire on the part of the architect to design his windows tall and thin, use pictures and decorative panels that are long and narrow, sculptures that emphasize the vertical. Let us hope that the man of the future will be able to get up out of the chair of the future.

One of the characteristics of such a home will be, as in *Pinafore*, that “Things are seldom what they seem.” Walls, often curved instead of straight, will break off in the middle of the room as if they were pieces of furniture; glass-topped table covers, leather upholstered horseshoe benches, will act as though they were a part of the wall.

Many pieces of furniture will be made of plastic molded as a unit, others





*Brown Brothers*

### THE FUTURE CITY?

Many architects such as Hugh Ferriss, who indulges his fancy in this glimpse of the city of the future, believe that the trend toward concentration will continue. Others, among them Frank Lloyd Wright and Talbot Hamlin, the historian of architecture, believe that it will be in the direction of decentralization. Ferriss here explores the possible developments of the "setback" principle which leads the eye upward to a lofty consummation. Adding to Louis Sullivan's precept that "Form follows Function" the maxim "Effect follows Form," he looks forward to a time when, as in the days of the Gothic cathedrals, great buildings will increasingly exert, in terms of form and space, an influence for the betterment of mankind.



of magnesium alloy. Sponge-like, synthetic upholstery will take the place of cushions; translucent glass fabric will provide beautiful hangings in myriad colors. New uses of plastic, glass, wood, marble, steel, copper, aluminum, linoleum, and leather provide a new language for decorative art.

"A rag, a bone, and a hank of hair," is what Rudyard Kipling calls woman. And now the day is at hand when she can appropriately dress herself in "a lump of coal, a pint of oil, and a handful of soy beans." Children have had sawdust dolls for a long time, but only the triumph of technology has made it possible to dress them in sawdust, too. The costume of the future will be made of milk, glass, sawdust, coal dust, natural gas, oil, soy beans, water, salt, and air. How would you like a bathing suit of salt, water, and air? Shucks, says grandfather, that's what I wore at the old swimming hole when I was a boy.

In ancient Rome the price of wool which had been dyed Imperial Purple was fixed by the Emperor Diocletian at the equivalent of three hundred and fifty dollars a pound. Purple—and in fact all the colors of the rainbow—from modern coal tar dyes, are longer lived and more brilliant, cost only a few cents per yard of material, and are getting cheaper every day. The trend of even the most beautiful of rayon and nylon fabrics—satins, taffetas, French and rough crepes, transparent and printed velvets—will bring them within the range of the ordinary woman's purse. With cheap furs treated to look like the most expensive seal, fox, and mink, she will be able to dress more luxuriously than the queens of old. The working girl will be as glamorous as the debutante, thus realizing an ideal carefully nurtured in her by the movies and magazine advertisements.

One definitely observable trend in clothing is its tendency to diminish, due to the tempo of modern life and an increasing indulgence in sport. The old-fashioned bathing suit was a voluminous garment, today's is only large enough to satisfy the most elementary requirements of modesty. Tennis is played in shorts by men stripped to the waist, a sight which must cause a shudder among the conservative. And after a swim or a game, it is natural to repair to the veranda in the same convenient garb. The beach pajama is another characteristic costume of our epoch. And now that technology gives us a summer climate indoors in winter, the abbreviation and the dwindling of the costume is likely to continue. For ordinary wear women will no doubt have a few light costumes; pajamas, trousers, blouses, smocks, without buttons or fasteners (the zipper has already won its way into our hearts, or rather, shirts and pants), for lounging and sport. They will be of synthetic material and there will be a wide choice of colors.

Men's clothing of the early twentieth century tends to bear out the contention of some of our critics that America is a "matriarchy," where the woman is queen and the man is a sort of drone. It is questionable whether the human male will continue indefinitely to go about dressed like a combination of an

undertaker and a sparrow. The business suit with its short, ugly jacket, its awkward collar, and the modern felt hat, which usually assumes an ungainly shape not intended by its designer, are at the opposite pole from any aesthetic ideal. Here and there the voice of a forward-looking designer crying in the wilderness can be heard, urging more color, greater simplicity of line—the use of the Russian blouse, for example. A few of the more temerarious add a crimson cummerbund, or sash, and a crimson bow tie, to the otherwise funereal tuxedo. The slickers and sweaters sported by youths of both sexes, with Donald Ducks, Mickey Mouses, and wisecracks scrawled all over them, the latter not always in the best of taste, are a step in the direction of emancipation. But unless man returns to his former virility, his proud self-confidence, unless he throws off the traditions of a utilitarian effort which make him ashamed of having anything to do with the beautiful, the male costume of the future will be just as forlorn as it is today.

One thing that can be predicted about food in the Gay 1990's, or earlier, is that the average citizen will have little difficulty in getting what he wants when he wants it. Canning is becoming an art. Peas and asparagus in black iron, plastic-coated cans may in the future be flash-heated to preserve the natural flavor, while, at the other end of the temperature scale, there are still vast possibilities in the freezing of food. The increased use of dry ice in trucks, refrigerator cars and ships will make it easier to transport juicy steaks from Argentina and lemons and tangerines from Florida, without losing any of their succulence.

How would you like to carry five hundred oranges up the slopes of Mount Everest, assuming that you are not a professional juggler? One ounce of synthetic Vitamin C crystals, such as was taken along in a small but precious bottle in the 1936 Everest expedition, would give you the equivalent in this essential vitamin. Milk, bread, and cereal today are "irradiated"—that is to say, Vitamin D (vigor) is formed in them under exposure to ultra-violet light. Yeast and germ wheat concentrate yield Vitamin B (normal growth), while Vitamin E (fertility) is also contained in germ wheat capsules.

You can buy back the missing vitamins that some of the big commercial baking companies process out of your daily bread, in globules, at the drug store, since nearly all the vitamins, and even globules containing all of them combined, can be bought across the counter. And there are cereals and baby foods so well furnished in vitamins, iron, and calcium that they constitute a fairly complete synthetic food. Already it would be possible, in theory at least, to eat only what you liked and make up the dietary deficiency synthetically. As the vitamin-jugglers continue their mysterious efforts, this will be even more true. But it is doubtful if the science of nutrition will soon reach the point where Mother may hand down little Willie a pill containing the whole of his Thanksgiving dinner, mistaking it for a grain of calomel.

Scientists point out that the plant or vegetable draws its nourishment-

giving qualities from the sun and passes most of them on to us when we eat it. But when a pig or a steer eats the plant, and then you try to get the benefit in the form of pork or veal chops, many of these nourishment-giving qualities have gone into the parts that are thrown away. It takes fourteen acres to produce a million and a half calories in the form of beef, one-third of an acre to produce the same amount in the form of sugar beets. As food factories the quadrupeds of farm and prairie are relatively inefficient.

When the country squire of the future—if such there be—surveys his broad acres—if he has any—he will be able to observe how thoroughly the machine



VITAMIN PILLS

Those minute quantities of chemical substances not produced by the body but essential to life and health, known as vitamins, may not be present in the right quantities in the food we choose, or may have been washed away in the cooking water, in canning and straining, or on the steam tables of restaurant kitchens. Fortunately, as in the case of dyes, rayons, and plastics, it is already cheaper to manufacture them than to grow the plants or catch the fish which provide them. Moreover, research in vitamin synthesis is developing important new branches of industry, and pointing the way to a new science of life.

has invaded the last stronghold of manual labor: the farm. With few exceptions, agriculture, like so many other human endeavors, is becoming an industry, and so has less claim to our attention as a part of everyday things. The man with the hoe is being replaced by the man with the tractor, and to the terms "man-sized farm," and "family-sized farm," has been added the term "tractor-sized farm."

And with mechanization comes increased efficiency. Even today electricity can milk cows, separate, cool, pasteurize and refrigerate the milk, and sterilize utensils. It heats incubators and brooders, lights henhouses at night so the hens will lay overtime, and mixes their feed. It will pump water for irrigating and washing vegetables, heat hotbeds, refrigerate perishables. It will store grain and hay. In the following decades it will be used for field operations such as plowing and reaping.

It also brings comfort and civilization to the farmer's home, in theory at least. It brings radio, telephone, television, and saves time in the kitchen. Yet in the 1940's only one-sixth of all farms have any electricity at all; less than a third have kitchen sinks and drains; less than a fifth have cold piped

water (less than a twelfth have hot piped water) ; less than a tenth have flush toilets ; less than a tenth have furnace heat ; less than a twentieth have gas or electricity for cooking. While the moderate-sized farm as a place to make money is swallowed up in the great industrialized farm, the farm as a home will certainly become more livable in the years to come.

Technology is at work to give improved varieties of wheat, that resist disease, rust and drought ; hybrid, high-yielding corn ; sugar beets that can resist curly top ; mosaic-resisting sugar cane, and purer types of cotton. It led the way to new crops in new places, such as rice in California, and the millions of acres now planted to soy beans. It has stamped out foot-and-mouth disease and wages a merciless war on insects. Cotton is dusted from airplanes. Not far in the future is the practicable cotton picker which will have a tremendous effect on the life of millions of persons living in the South, both black and white. Technology will perfect weather-forecasting, with the use, in the future, of robots to observe and record the weather. It is busily developing more effective fertilizers. With all these aids, yields are increasing day by day ; animals grow bigger and provide more food. In 1787, the year of the drafting of the Constitution, it took the surplus food produced by nineteen farmers to feed one city dweller. Today these same nineteen farmers support sixty-six persons, at home and abroad, who do not live on the land. At this rate, far fewer farmers will be needed in the future and they, as in every industry, will have to be technically trained. The tattered straw hat and the corncob pipe give way to the green eye shade and the slide rule.

And some forms of production that we think of as agricultural show a tendency to leave the farm and move into the city. The poultry factory in the loft building has already been mentioned. But a development of great significance for the future is the soilless growth of plants in tanks containing the nutritive elements they need in liquid, chemical form. A heated tank containing calcium and potassium nitrate ; magnesium and potassium sulfite ; aluminum phosphate ; titanium oxide ; manganous chloride ; boric acid ; zinc, copper, nickel, and cobalt sulfate, has grown twenty-five bushels of potatoes on one hundredth of an acre of water surface. In the future this method will permit the growing of luscious fruits, flowers, and vegetables, out of season. More, the passengers on a luxury cruise will be able to pick their own roses from the flower gardens on A deck, or their own radishes and celery from the truck gardens on B deck if they are so minded, while it is not inconceivable that the denizens of the humble trailer could also be assured of a steady supply of fresh growing things.

It is quite likely that the farm in future will be of as much interest as a source of industrial raw materials as of food. The soy bean is used in the manufacture of paints, varnishes, insecticides, lecithin, disinfectants, core oil, soap, printer's ink, medicinal oil, and waterproof goods. Acetic acid, acetone, and ethyl alcohol will be synthetically produced from the starch and

cellulose content of plants; oat hulls, corncobs, nutshells, and fruit pits will yield methanol and formaldehyde. Weeds such as goldenrod, and milkweed may give rubber; skim milk and urea can be made into plastics. Bagasse, a waste product of cane sugar; cornstalks, straw and sorghum, will provide fiberboard and other pressed products. Synthetic wool will be made from casein or from soy bean protein. Wood flour will give explosives from cobs



#### THE CHEMICAL GROWTH OF PLANTS

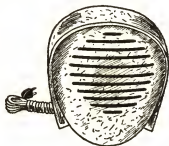
The time may not be far off when cucumbers and tomatoes will be grown in city apartments, and potatoes in suburban greenhouses. Using tanks and containers of liquid plant food containing various chemicals, enormous yields have already been obtained. As used in the greenhouse, electric cables running through the tanks maintain a temperature conducive to the most rapid growth.

and nut shells. Fermentable farm products may be called upon for alcohol to use as fuel for automobiles, while oat hulls may provide an antiknock compound.

Human ingenuity has already been able to derive the following products from the humble cotton seed, for example. From the kernels come oil, flour, cake and meal which give shortenings, margarine, salad dressing, salad oil, packing oil for sardines and olives, medicinal preparations and cosmetics, miner's oil, soap, washing powder, candles, composition roofing, linoleum, oilcloth, fullerware, waterproofing, insulating materials, cotton rubber, synthetic leather, phonograph records, feed for livestock, fertilizer; from the hulls come stuffing material, paper, packing material, insulating material, poultry house litter, saccharine concentrate, potash; from the linters, mat-

tresses, automobile and furniture upholstery, cushions, absorbent cotton, bandages, gauze, wicks, twine, carpets, paper, cellophane, explosives, lacquers and enamels, rayon, automotive and electrical parts, fountain pens, toiletware, jewelry, safety glass, and films.

The world has been compressed until the whole of it is practically within reach of man's elbow; time and space are being conquered with bewildering rapidity. Within the next hundred years they will no longer exist as an obstacle to transportation and communication.



PLASTIC GADGET

This is a "Radio Nurse," which relays Baby's wails from the nursery to Mother's room. Like the door knob, the faucet handle, the coat hanger, the lamp shade, and a thousand other miscellaneous articles, it is made of one of an ever-increasing line of synthetic resins and plastics, which are injected hot into a cool mold and which emerge ready for use. Plastic airplanes and plastic automobile bodies, molded as a unit, have passed the experimental stage, and plastic houses loom as an interesting possibility.

Today you can instantaneously project your voice to any part of the world. Tomorrow you will be able to project yourself as well—that is, the sight of you, alive and moving.

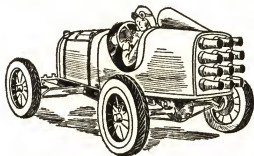
Before long it will be less and less necessary to move that real body of yours from place to place, but if you should—why, already it is possible to span the continent or the Atlantic Ocean between sunrise and sunset. Within a few score years, at the rate we are going, it will be a matter of minutes rather than hours.

Some of the more sensitive and perceptive are vaguely aware of the annihilation of time and space. The attempt to adjust ourselves to this new reality is one of the nervous strains of the present age.

In the twentieth century the air was found to be the most practical medium for covering long distances. And the upper reaches of that air—where resistance is very light, making possible speeds of five hundred miles or more an hour, beyond the reach of fog, mist and clouds—is ideal. In the 1940's man is already flying in the substratosphere, using supercharged engines and electrically heated cabins automatically supplied with oxygen. But this is not

enough. Propellers and wing surfaces will have to be called into play. It may be necessary to supply oxygen to the engine as well as the cabins—if engines as we think of them are used. Compensation will soon have to be devised for the effect on instruments and in blind flying—the earth will not be visible—of reflected radio waves, ultra-violet rays and the cosmic rays. Mechanics who have to inspect engines may don "diving suits" enabling them to support low pressure as the deep sea diver supports high pressure.

Another important development in the future plane is the power plant. Airplane engines are becoming smaller and lighter per horsepower, and conse-



#### ROCKET METHOD OF PROPULSION

In the late twenties, man's ingenuity devised an entirely new principle of locomotion. In early tests, the rocket car, precursor of the rocket plane, reached a speed of 103 miles an hour in the first ten seconds. It terrified spectators, just as the first locomotives had done a century earlier. For the driver's well-being it is important that the rockets go off in succession and not simultaneously.

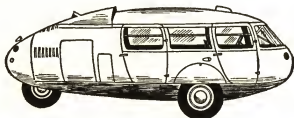
quently more efficient. The safe engine operating on Diesel oil is already practicable, although still fairly heavy. And in the far distant future, the use of uranium or barium may make possible power plants of an efficiency for their size and weight that is almost inconceivable today.

Another radical departure is rocket propulsion. In a gasoline or steam engine the explosion drives forward a piston or sleeve valve in a cylinder, which causes a wheel screw or propeller to rotate, and this gives a forward motion to the car, ship or plane. In rocket propulsion the forward motion is a direct reaction to the explosion. But instead of strapping the traveler to the side of a giant rocket for his trip through the ether, he will be propelled by a number of rockets fired in series. By setting off the first ones at a slow rate, the passenger is gradually accustomed to tremendous speed. Braking and stopping may be effected by firing off rockets in the opposite direction. As a motive force atomic hydrogen might be used, which is twenty times as effective as gunpowder. In the stratosphere, whose thin air offers no supporting surface for planes, the rocket chariot should be more effective.

If planes or any other form of flying machine still fly near enough to the

earth to see it—possibly for short flights or carrying freight—they will rely on the infra-red ray to see through fog and darkness. Through the use of this invisible eye, cameras can penetrate the atmosphere as far as the earth's curvature; combined with television, it will enable planes and ships to see obstructions at night. The electron telescope operates on the same principle.

And what, meanwhile, of the humble, earth-bound automobile, so popular in the 1940's? It will still be useful for going to the grocer, or taking the children to church, like the station wagon of today. Nevertheless, it will be more efficient than the sleek, shiny automobile of our time. Due to the use of new alloys it will be considerably lighter. It may well be of tear-drop design, with the engine in the rear.



THE CAR OF THE FUTURE

Like bloated teardrops, like gondolas detached from their balloons, designers think, will be the car of the future. It is reasonable to assume that wheels will be enclosed and that the engine will be in the rear. Light in weight, with an ultra-efficient power plant, these cars will all but fly.

Its small, light, probably two-cycle motor, operating on the more powerful fuels of the future, will be vastly more efficient than the four-cycle one of today.

The use of alcohol as a fuel would not present any serious problem to the modern researcher. A more sensational development, which might revolutionize the internal combustion engine, would be the conversion of coal or crude petroleum into gas, the gases then being polymerized, or "cracked," and converted into liquid fuel. This country possesses large reserves of coal and of oil shale, both of which would eventually be drawn upon for fuel. Tires, made of synthetic rubber in chemical plants which can turn out in an acre as much rubber as on a huge tropical plantation, will be puncture-proof, and will last as long as the car.

It seems possible that the convenient, rapid, steep-flight airplane may render obsolete the express highway. Equally out of date will be the modern airport. But however the individual of the future will travel, there is more than a possibility that he will not be obliged to handle the controls himself. He may well be able to doze or read, while, from a distant point, the car or plane will be held on its course by short-wave impulses.



To record and reproduce sound, man invented the phonograph; to record and reproduce sight, the movie, to which sound was eventually added. This gave a sense-satisfying visual and auditory reproduction of events that had already taken place. Meanwhile the telephone was making possible the transmission of living sound—the present, living human voice—along a wire; radio, utilizing the ubiquitous ether, made wires unnecessary. Eventually these various means of reproducing the impression of human activity, all aiming at the same goal, found their fulfillment in television, which magically brings one living, speaking, acting human being into the presence of another. Here at last do time and space truly bow their necks beneath the heel of the electrical giant.

Television exists. It is not cheap. But the day when every home is equipped with a relatively inexpensive two-way point-to-point television set can hardly be a hundred years off. And that day might spell the doom of the telephone and the movie.

The principle of the transmission of sight is that the photoelectric cell as it scans a picture, transforms the variations of light and shade into electric impulses which can be transmitted through the ether. That is a greatly simplified explanation. In practice, television is so complex that it baffles the lay mind, and its very complexity underlines the character of the age in which we live. To broadcast a picture in black and white, without visual perspective or auditory perspective, requires the transmission of only one picture along one channel of a certain band width, but as each picture must consist of two hundred thousand separate elements of light and shade, and thirty pictures are transmitted a second, this means the transmission of six million picture elements a second.

The addition of auditory perspective, color, and visual perspective would require the transmission of eighteen million elements a second. No, a television set cannot be improvised out of an old cigar box and a coil of wire. But all these problems will eventually be solved.

The effect of a generalized use of television is almost inconceivable. To see and to talk with your best friend, no matter where he or she may be, to transact business, to listen to the greatest artists, thinkers, statesmen, it will not be necessary to stir from the living room. There will be even less need for the concentration of humans in cities. A banquet of distinguished persons living in all parts of the world could be given; at every place, a television screen. In the late thirties an experiment was carried out which enabled the passengers in an airplane to *see the plane landing*, as their arrival was televised from the airport and recaptured on the receiving set in the plane.

Radio may be relegated to communication between individuals out of reach of a television set. Sarnoff predicted in 1936 that the day would arrive when each individual would have his own wave length, and by means of a pocket radio could communicate with anybody anywhere. A one-meter-wave trans-

mitter able to carry the human voice four miles, packed into a cube three inches square, and using less power than an ordinary pocket flashlight, has already been perfected. Another can be carried in a hat, with a telescoping spike serving as antenna. During those extraordinary manifestations of American exuberance, the presidential nominating conventions, radio reporters broadcast news of what transpired on the floor as they circulated through the maelstrom, by means of tiny portable transmitting sets strapped around their midriffs.

Outside of a few first editions and beautifully bound volumes with handsome illustrations, the library of the future may contain few books. It may well consist chiefly of little drawers filled with thousands of tiny reels of film a few millimeters in width. On the library table would be a reading machine about the size of a portable typewriter, which projects the tiny photographed pages onto a screen larger than the ordinary printed page. Each of these tiny films will also carry a sound track, and it will be possible to play them on some kind of "talking book" apparatus.

The man of the future may well carry with him wherever he goes a camera hardly bigger than a watch, and a tiny sound-recording device so that he can, if he wishes, "remember" anything he has seen or heard by mechanical means.

For the purposes of scholarship, science, business and statesmanship, all records will be "remembered," selected and analyzed on photoelectric tabulating machines with far greater efficiency than the human brain could achieve and in much less time. The almost magically efficient "business machine" will increasingly take the place of thousands of white collar clerks.

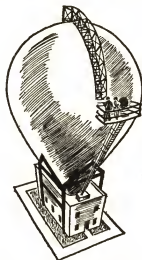
Education, which made a bid to enter the home in the 1940's via radio, but whose still small voice was drowned out by a chorus of pleas to smoke certain cigars, buy certain watches, and give the children such-and-such a syrup, will, with the advent of television, be able to make its abode there. The turn of a knob will bring the most famous teachers with the most convincing demonstrations, all worked out along the latest educational principles. Little may be left for the little red schoolhouse.

The photoelectric cell has already invaded education, by way of the "business machine," used not only for all the usual records but even for the grading of specially adapted tests.

And the same television apparatus that will bring the Einstein or Bergson or Dewey of the 1990's to your chair side will, of course, be able to bring you the world's great political leaders. Democracy will take on a new significance. Even the average person will be made aware of the smallness of the world and drop concepts of the organization of government dating from horse-and-buggy days. World unity will be, technologically, a fact, and if it is not so politically, the fault will be man's, for not having caught up with his own inventions.

With every police officer and detective able to communicate instantly with

headquarters, the apprehension of criminals will be made easier. There are interesting possibilities in the improvement of the lie detector, such as the "polygraph," and in the use of drugs which prevent the concealment of one's real thoughts, such as scopolamine and sodium amytal. But it is just possible, along with our scientific achievements, that we will progress a little way



AN ATOM-SMASHER

The breaking-up of the atom is pregnant with possibilities in every field of science. The cyclotron, or atom-smasher, is essentially a huge magnet which causes electrically charged particles to whirl in spirals until they reach a speed sufficient to encircle the earth in a few seconds, acquiring an energy of millions of electron volts. But perhaps we should be satisfied with the explanation given by an old lady, who, after listening to a highly technical account of the cyclotron remarked: "I see. You lead the atom around until it is so dizzy it breaks up in despair."

along the road toward an intelligent reorganization of society in the next hundred years, so that the criminal will tend to disappear along with the social forces that created him.

In the field of medicine limitless vistas are opening up. Carrel and Lindbergh's heart pump which keeps human organs alive under artificial and planned conditions of temperature and nutrition, health, and disease paves the way for important discoveries. The use of urea for the treatment of stubborn wounds developed from the discovery that wounds infected with maggots (which excrete urea-bearing allantoin) heal more rapidly than clean ones. The use of alkaloids extracted from the bark of the cinchona tree is proving helpful in the treatment of pneumonia. Most sensational of all was the discovery that certain coal tar derivatives would travel through the blood

stream into the cells of the body and destroy any germ they found there. This gave sulfanilamide, widely publicized because of its remarkable efficacy in the cure of venereal disease—the curse of mankind—but also of inestimable potential usefulness in the treatment of every infectious disease.

The radio knife, a needle charged with an alternating current of several thousand kilocycles a second, destroys or sterilizes tissue as it bloodlessly operates. It will be of special utility in delicate brain operations. Ultra-short wave therapy, including the artificial raising of body temperatures, combats focal infections and acute inflammations. And the atom-smashers, who desist not from their labors, are discovering that neutron bombardment is fatal to germ cells.

In the first half of the twentieth century the vitamins were synthesized. But in the second half scientists will undoubtedly make progress in synthesizing the hormones, the mysterious secretions of the ductless glands which regulate the make-up of our personalities, determining whether we are to be big or little, energetic or lazy, virile or effeminate, aggressive or transigent, high-strung or lethargic. The role of diet in personality is greater than the average layman suspects, and it is being duly investigated. But the imagination balks at the idea of scientists arbitrarily mixing up the elements of our personalities through the use of synthetic hormones, as the painter mixes colors on the palette.

One of our brighter young Utopians, Aldous Huxley, predicts that the movies of the future will include "feelies" and "smellies." Rash were the person who would deny that these might be possible, however fantastic they may seem to us. One thing is almost certain: television, which permits the integral reconstruction of life, will tend to monopolize the field of entertainment. Re-creation is the best recreation. Enough has been said about television to allow us merely to curtsy in its direction at this point, while noting that the drama should be tremendously stimulated. Television may yet give us a Ben Jonson or a Schiller. Ballets, concerts, visits to halls full of famous paintings or gardens full of sculpture, will flow into the living room. Let us hope that by that time the commercial announcer, the unctuous-voiced super-salesman of the ether, will have gone the way of the dodo.

Electricity has entered the field of music with startling results. It is possible to play a kind of electric violin by waving the hands in the air in the proximity of a box containing a generator of vibrations. By their command of the various overtones, electric organs and pianos can reproduce the timbre of every stop on the pipe organ, every instrument in the orchestra. (Organs have also been contrived to produce combinations of color, synchronized with music, and our friend Huxley adds an organ which wafts various scents in the direction of the smeller.) But electricity may have the unexpected effect of changing the whole character of music, too, through its ability to play in the true instead of the tempered scale. Listeners might conceivably lose their

pleasure in listening to music in the tempered scale, which would spell adieu to the "well-tempered clavichord."

It is probable that the field of amusement and sport will give the future man his chief opportunity to return to the day when life, whatever its faults, was not conceived in the laboratory, was not manipulated by scientists and engineers, was neither artificial nor synthetic. While, in the realm of material things, the age of power tends to give man back to nature, in the realm of the spirit it has robbed him of his personality.

In theory, the great boon of the age of power is to give each of us the leisure to live the life he chooses, even the old, imperfect, zestful existence of the pre-technological era. But up to the time of going to press, few men had revealed any conception of the social possibilities science opens up. In everyday things, science has magically transported us down the lane of the future; the next step is to provide the opportunity for our poor addled brains to catch up. Leisure, sport, any kind of distraction, anything non-utilitarian, is a help. Your modern country squire, possessed of cars, yachts, and planes, still rides to hounds. And so the most delicious and greatly-to-be-prized pleasure of tomorrow may be in chopping down a tree that is not made of crushed peanut shells, with a hatchet bereft of electrical impulses.



## A Reading List

To give a comprehensive bibliography of this book would necessitate listing too many volumes. In its place is given a list of books that should be helpful. All general histories, encyclopedias, and general works of reference are omitted, as are all articles in periodicals, all periodicals except one or two, all works in foreign languages, and all works of fiction.

For brevity, no book is listed twice. The classification is, therefore, necessarily somewhat arbitrary. A book on any given topic should be looked for under both the appropriate Subject, and the appropriate Chapter, and also under related chapters. "Cavaliers," and "Planters"; "Dutch," and "Middle Colonies"; are related chapters; so are any chapters covering the country at large which follow each other chronologically. The book should also be looked for under "More or Less General."

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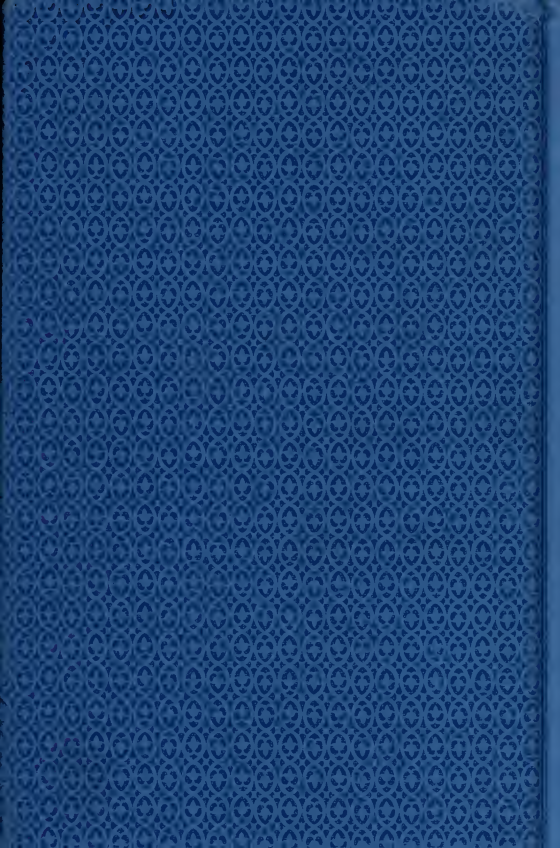
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